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Issue 149 • 14th September 1991 • £1.50

NEW COMPUTER EXPRESS

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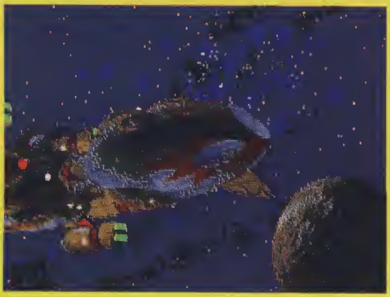
PC SETS NEW STANDARDS



WING COMMANDER 2 on PC
– All set to blast the ST and Amiga

– The people in the know seem to think so...

Find out why as Express puts them on the spot

INSIDE:

A MASSIVE 20 PAGES OF 16-BIT NEWS

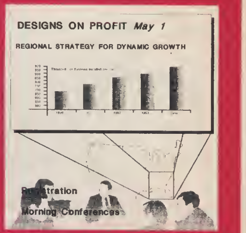
AMIGA

Connoisseur

ST

Stereo Replay

PC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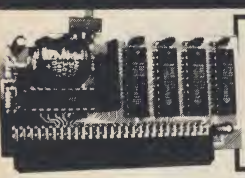

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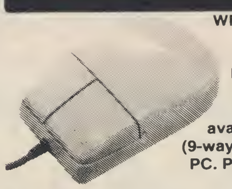

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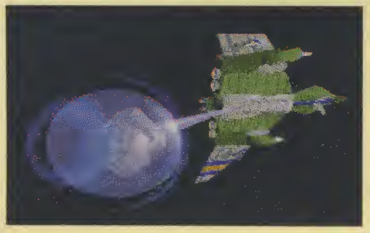

Is the PC format the future?

You wouldn't think it now but judging by its current UK growth rate, the PC will displace the Amiga to become the games market leader by 1996. Find out why and what it implies on page 5

- **Wing Commander 2: making sure PC games take off in a big way**

THIS WEEK

News: All the latest updates – page 4-7

What's New

A £650 colour VGA monitor for only £299, a portable ink-jet printer the size of a Psion Organiser, Fax documents direct from Windows 3 and the fastest CD-ROM on the market – page 8

- **Printapen's portable ink-jet printer - a bargain in your hands for only £249**

COVER DISK 1

Express software: Slam home your new disk and find out how to get it up and running on page 9

COVER DISK

THE EXPRESS FEATURE

State of the art computer graphics

This year's Siggraph expo in Las Vegas showcased all the latest developments in digital delights and more. Find out just how far-out the future will be on pages 14 &15

- **The shape of screens to come? - there's no limits anymore!**

INSIDE INFORMATION

The Amiga, ST & PC pages

Three jam-packed pages detailing all the hottest news and rumour about your machine plus the most essential reviews and tips – pages 53, 55 & 56

- **What with all this peace breaking out in the USSR it comes as a bit of a shock to see MiGs flying over South America, but that's what's happening on the ST this week**

Public Domain

The essential guide to the best in low-cost software – pages 58, 59, 60 & 61

Games Week

Grandstand review and more tips for ***Populous***
PLUS: *Magic Pockets* from the Bitmaps - just a re-write?
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- ***Magic Pockets* is another game from the makers of *Gods* but is it any good?**

SHOPPING EXPRESS

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Knight and easy does it

Knightmare , the cult children's TV dungeon-saga show is to have a computer game based on it.

Programmed by the author of the highly successful Captive, and published by Mindscape, the game will closely follow the pattern of the kiddies cult which is now entering its fifth series. Knightmare itself has undergone some radical changes from its format with greater and more sophisticated use of computer graphics and a revamp of content.

The game of the show is not expected to hit the streets until nearer Christmas, and the show itself is still being edited.

• At last! More computers on television, or at least more computer graphics with the new, updated series of kiddies cult classic Knightmare

The only way to get a copy of the game, by the way, is to join The Quest, which is the Knightmare club. Membership is £3.95 and lasts until August 1992. For more information call 0603 615151. ■

Snack attack!

Sega has signed yet another deal in order to increase sales of its 8-bit Master System and 16-bit Mega Drive consoles.

This time it's with Golden Wonder. And in a jibe at competitor, the vast Japanese console maker Nintendo, which recently tied up a deal with Walker's crisps, a Sega spokesman said: "Unlike other recent on-pack deals in the crisps and snacks market, the Golden Wonder promotion offers consumers a guaranteed reward".

By collecting 20 packets of Wotsits or Ringos and sending them in, snackers can get a free Sega Fun pack containing badges, stickers, a poster and an iron-on patch. And if that's not enough there's also a chance to win a Master System II too.

Look out for the TV adverts, and the start of the promotion from October. ■

CANON VIDEO CAMERA HITS THE HIGH STREET

In a bid to popularise its revolutionary still video camera, the Ion, Canon is to open print bureaux for the machine.

The High Street service will be controlled by Amiga 500s, and a Canon colour video printer, the RP-731 will print the photos.

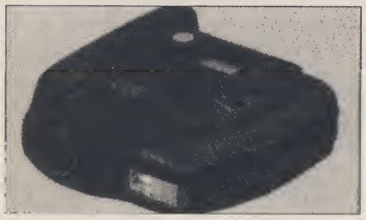
According to Canon's European marketing manager Mr Satoshi Imai: "For users it will give excellent value since they do not have to print out all the images taken. It's a case of keep the best, erase the rest".

Unlike conventional photograph developers, which at best can only normally offer a 24-hour turnaround, Canon maintains that its system will take an amazing two minutes.

Users will be able to choose from single prints, four image prints and even a 25-shot picture directory printed on photographic paper and taken directly from disk. The printer can also add captions and the date of the shoot.

It is intended that the Ion Print Service will be set up in 1,000 High Streets including video, camera and hi-fi outlets throughout Great Britain and Europe by the end of 1992.

The Canon Ion costs £499.99 and was given an excellent review in *Express'* issue 129. For more information, contact Canon on 081-459 1266. ■


• Now you've spent £500 on the amazing Canon Ion camera, you'll need to print the pictures. Canon's printing bureaux will be on your local High Street soon

EXPRESS...

If you are a reader in Ireland, or have received any PC software from the Emerald Isle – check it for the PC VRS DC virus. It has a trigger date of the 23rd of the month. The next occurence of this is in September.

...SNIPPET

Gates in Europe

Microsoft's chief executive officer and millionaire driving force, Bill Gates, is in Europe this week addressing the European Conference and Exhibition on Multimedia and CD-ROM.

His company, which is responsible for *MS-DOS, Windows, Word, Excel and Works,* is launching the Multimedia Development Kit, and a set of operating system extensions called Windows 3 + Multimedia Extentions 1.0.

With Microsoft, the biggest software publisher in the world, now firmly backing multimedia, its future seems to be assured. ■

ST ATonce emulator is a world first

The Vortex ATonce-386SX emulator is the world's first such device for the Atari ST.

It comprises a 32-bit CMOS 80386SX central processing unit running at the rapid clip of 16MHz and also makes use of the Mega ST's cache RAM.

Vortex is also claiming that under the Norton SI benchtest, the emulator managed 12.3 million instructions per second (MIPs) when running at 16MHz.

If you decide to add 512K of Fast-RAM, again from Vortex, to the setup, then it is estimated that the rate moves up to 15.6 MIPs, a more than respectable rate even for a full 386SX.

Also available for the system is an 80387 maths co-processor which will be of assistance in number intensive operations such as Computer Aided Design.

If your STE has at least 1Mb of RAM then the emulator will allow for 704K DOS memory. If your STE has more than 1Mb fitted then you will be able to access the total memory in extended or expanded mode.

The system runs unrestricted in protected mode, supports the SCSI hard disks, and Atari AHDI-compatible hard disks. It supports CGA, Hercules, EGA and VGA standards. At present, only Mega STEs are supported, however, UK distributor Silica Shop is planning to ship the 520STE version as soon as it becomes available.

Silica is on 081-309 1111. ■

Talking Tolkien

...And the small brown furry Amiga owner did head for the dark games emporium of Elread and there he did discover *Lord of the Rings* for his machine.

Interplay Productions has finally converted the first part of the Tolkien trilogy for the Amiga. You play Frodo son of Bilbo as you make your way to the end of *The Fellowship of the Ring*, the epic hippy hit. The remaining two parts of the trilogy are already in planning, but for now have your machine ready for an October release. ■

• Dark riders, long haired dwarves, icon driven gameplay and much more as *Lord of the Rings* makes its way to the Amiga

EXPRESS COMMENT: THE PC EXPLOSION

At last it's happening – PC games are here in a big way. Just like the self-appointed industry pundits said they would be. It just took a few years longer than they said, that's all.

Software houses are delighted. From Accolade to US Gold by way of Electronic Arts and Ocean, they've all been watching the PC's agonisingly slow development with pound signs in their eyes, a certain wetness of the lips and a generally feverish demeanour.

Desperation

Indeed, perhaps the most extraordinary evidence of this came earlier this year, when Ocean ran PC games advertising – in *Amiga Format* and *ST Format* magazines! That's how desperate things were getting.

Well, now it's happening. Amstrad has unveiled its new PC games bundles; Commodore is apparently timing its move for Christmas; at last there's a half-decent PC magazine about to be launched (*PC Format*); and PC games software sales are finally reaching critical mass, both in terms of quantity and quality.

ST in danger

Does this matter to users of Amigas and STs? Well, yes, it does, actually. Software houses with roots Stateside – EA, Microprose and Mirrorsoft's Cinemaware – are increasingly dubious about bothering with ST releases. With no American ST market, they could be ploughing their programming efforts into PCs, why bother with the ST?

Threat to Amiga

Amiga users also need to watch out. OK, so at least there are some Amigas in the States – but it's still very much a PC world. There may well be 700,000 Amigas in Britain, as Steve Franklin would have us believe – but there are millions of PCs.

If the people who use PCs every day at work ever discover how much more there is to life than *Tetris* or a pirated, manual-less copy of an early version of *Flight Sim*, owners of the ST and Amiga could be in for tough times. ■

Latest software figures show PC overtaking ST, moving up on Amiga

PC GAMES UP 400%

The UK computer leisure market is heading for one of the biggest shake-ups for many years. The Commodore Amiga/Atari ST two-way fight is finally being threatened by a third force, in the shape of the PC.

Following hard on the heels of Amstrad's PC Games Pack launch (see *Express* 148), Commodore – which already markets Europe's most successful 16-bit games machine, the Amiga – is dropping heavy, though guarded, hints that it is to launch its own games PC this Christmas.

On the other hand, it is in Commodore's interests to give the impression it has a PC leisure bundle waiting in the wings, if only as a spoiler to Amstrad's 16-bit leisure invasion.

AMIGA UNDER PRESSURE

If nothing else, Commodore's comments indicate it is having to look seriously at the PC as a major league leisure software format, and as a threat to the Amiga's hitherto seemingly unassailable position.

In fact the computer leisure industry is now beginning to sit up and take notice of the PC, previously seen as a staid, boring business tool.

Increasingly software houses are releasing games for the format. Publishers such as Psygnosis, with the best selling *Lemmings*, Lucasfilm, with the tremendously successful *Secret of Monkey Island*, US Gold with *Links Golf*, Ocean with *Gauntlet 3* – all are looking at the rapid growth in PC sales (see box).

THE PC IS THE FUTURE

Amstrad insists that its move into 16-bit games has a brilliant future. According to an Amstrad spokesman this week: "It's the future. The PC is an all round machine. It will beat the ST and Amiga in the long run.

"People with a lack of judgement as to what is required from a computer," he went on, "will continue to buy STs and Amigas for a while yet, but the home budget cannot support a machine which is purely games based, and how many people really use their STs and Amigas for anything else?"

Commodore's Kelly Sumner views this attitude with some cynicism: "Yes, technically there are more PCs in the UK market than any other. Amstrad has a point. But in terms of leisure, they're being quite silly.

"Actually, they're crazy, living in cloud cuckooland if they think they'll be outselling the Amiga or the Atari ST in the near future!

"As far as I'm concerned – and the figures back this up – the Amiga has a 35 to 40 per cent market share in the leisure area. The PC is growing but it has a long, long, long way to go before it catches up with the Amiga."

ATARI DENIES THREAT

Troubled Atari also has a few points to bring to the attention of the person thinking of buying a new machine. The company's long-serving spokesman, Peter Walker told us: "Amstrad is not even in our market. We don't feel threatened by the current taking up of the PC leisure market, which is being heightened by the need to sell PCs.

"From what they're saying, it sounds like they've got to sell a lot of PCs. Maybe they're being aggressive" he suggested, somewhat bitchily, "because they're not happy price wise?"

And indeed the price differential has long been a major factor in hampering the PC's rise to power in the highly profitable gaming world. Now, however, with colour 286 machines dropping sharply in price as the 386 and 486 processors take over in the business world, margins are narrowing.

THE PRICE IS WRONG

Commodore dropping hints about a new machine, whether it materialises as a real machine or not, suggests that there are worries within the industry.

There is no doubt that, once price differences have been worked out, the average 286 PC will still cost the user somewhere in the region of £500-£600 more than an Amiga or ST bundle.

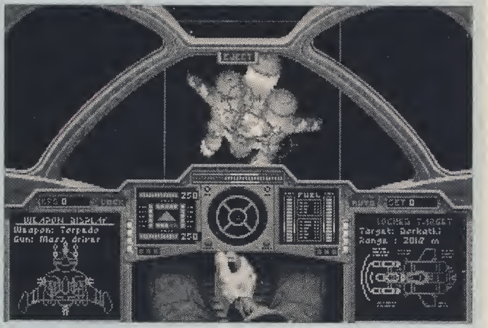
However, PCs offer a wider installed software base in terms of business and productivity, and that price will include a hard disk. And now the software houses are beginning to commit in a big way, the PC's future looks rosy and that of its rivals appears somewhat precarious compared to this time last year. ■

THE SHAPE OF WINGS TO COME

It is a generally accepted fact that the sucess of the PC as business machine was made by Lotus *1-2-3*. Now a game is to be launched which could do the same for the machine in terms of its gaming credibility.

Wing Commander 2, from Origin is a 3D space combat game which is already being touted as the best thing ever seen on the PC or any other machine for that matter. *Elite*, the old benchmark, does not even get a look in according to many respected games players who have seen early versions.

WC2 features animated, raytraced linking sequences, digitised images and real speech. It is said to be fast, furious and highly playable even on a standard 286. But with VGA graphics on a 386 it will look the real biz. WC2 will be available from Origin later in the year .



• Is this going to be the software which drives the PC into the games market with the same force that Lotus *1-2-3* drove it into business? *Wing Commander 2* is already being touted as the best thing on the screen of a home computer

HOW THE THREE FORMATS STACK UP

An analysis of full-price sales compiled by the European Leisure Software Publishers Association (ELSPA) from the sales returns of 15 leading games houses over the period July 1990 to June 1991 reveals some interesting trends.

Of the 2,439,058 games sold 759,438 were Amiga titles – that's a respectable 29% share of the entire games market. By comparison ST and PC games sales across the period accounted for 12% and 9% respectively.

But of more long term interest are the tremendous inroads the PC is making into the leisure arena. In July 90, only 6,700 PC games were sold in the UK, while a year later the figure was 26,300 – a massive increase of 389%.

Even though the Amiga's share of the market has risen to 38% in the last three months, the PC's growth rate is currently averaging 60% each month!.

In July last year the PC had only 6% of the market, but by June 1991 this had risen to nearly 13%. By comparison, the ST began this same 12 month period with 15%, steadily dropping to 11%. Since May, more games have been bought by PC owners than ST ones. And that's a trend which looks to set to continue.

THE SOFTWARE HOUSES SPEAK OUT

In order for the PC to make it as a games machine it requires solid support from the software producers. At the moment, the majority of games software for the format emanates from the United States, and revolves around strategy and simulations rather than the platform, shoot-'em-up and arcade conversions which are common to machines such as the ST and Amiga.

Companies such as Sierra, and Cinemaware have long been committed to producing quality games for PCs. However, UK-based firms have been reticent to re-allocate development time and money away from the Amiga and ST to the PC until they see profitabilty.

Apparently this is now the case. Ocean, US Gold, Psygnosis, Mirrorsoft, Domark, and Virgin are all committing time and resources to development of PC games which break out of the usual strategy/sim format. We spoke to some of the UK's major software houses.

VIRGIN GAMES

Andrew Wright: "The future of gaming lies in the console and PC formats. That also includes ground breaking developments such as the Multimedia PC (MPC)"

GREMLIN

Ian Hadley: " In a year's time MS-DOS-based machines will have a far greater share of the market. And this third party (referring to the ST and Amiga as the other two parties) will become the dominant force. Look at the pattern in the US, yes we're definitely taking it very, very seriously".

DOMARK

John Kavanagh: "Yes PCs will grow and grow and will take over eventually. Their major advantage over the ST and Amiga is the ability for polygon generation. The only way to combat this is if Commodore produces new 68020 and 68030-based Amigas, and I can see this happening."

MICROPROSE

Martin Moth: "PCs are by far the biggest potential growth area particularly since the price drops. The games market is polarising, with youngsters going for consoles and the older people with PCs at work using PCs at home. These are a new generation of gamers who only know the PC. For us the PC market in the US is our bread and butter."

WordPerfect's watching you

If you're using a hookey version of any of WordPerfect's software then you are in imminent danger of a visit from the boys in blue.

WordPerfect Corp has decided to take software piracy of its products very seriously indeed. It has already carried out a number of site inspections with High Court approval. These have netted several thousand pounds worth of illegal copies.

If you think you may have bought some dodgy WordPerfect software, check the registration card. If it is addressed to anywhere other than WordPerfect UK, then it's counterfeit.

You will be able to buy the legal version for what WordPerfect calls: "a nominal fee". For more information call 0932 850500. ■

EXPRESS...
Autodesk is claiming that it has sold one million copies of its highly respected computer aided design package AutoCAD. It is also claiming that it makes a staggering $2 billion a year.
...SNIPPET

Philips photo opportunity

Philips is to market PhotoCD players in the UK and Europe.

The players can handle both audio and graphical Compact Discs, and are seen as yet another link in the Compact Disc Interactive (CD-I) chain.

PhotoCD is a joint project with Kodak and enables users to take pictures in the same way as they would using a standard 35mm camera. The images can then be displayed and stored on disc, using the player itself, or a CD-I device.

CD-I players are expected to appear in Europe in mid-1992 with the first PhotoCD players hitting the shops in summer of that year. Both will be compatible with each other. ■

EXPRESS...
With the help of an £80,000 computer system, six paintings, two of which are worth £20,000 each, were returned to their rightful home just 10 days after being stolen. The computer system is run by the Art Loss Register.
...SNIPPET

All the latest launches from the Brentwood boys are confirmed

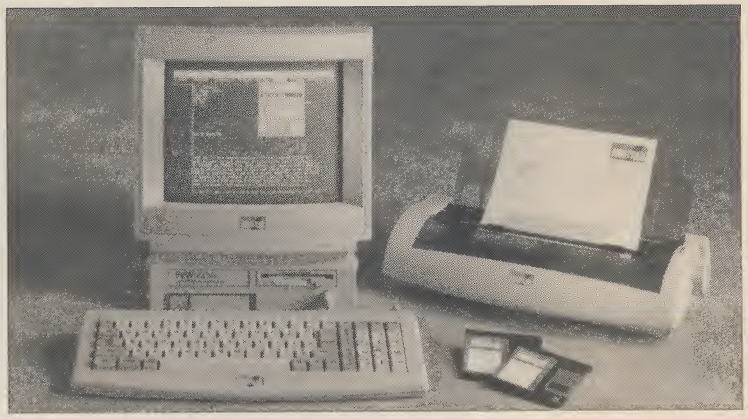
AMSTRAD'S NINE

Amstrad has confirmed that it is to launch several new business machines. It has also confirmed details of its Games Pack PC and details of the two new PCWs. Both of the latter were exclusively revealed by *Express* in issue 143.

Leading the Essex-based firm's re-entry into the business market is the PC5000 series. Already being heralded by industry insiders as the PC1640s of the 1990's, the two machines are small footprint designs. They are the PC5086 and PC5286. Not exactly highly specified now that the 80286 has been usurped by the 80386 and even the 80486 microprocessors, the PCs are aimed at the home users or small businesses.

Next in line are three notebook computers; the ACL-386SX, ANB-386SX20 and the ANB-386SX40. The former is a colour version which makes use of flavour of the month screen technology, Thin Film transistor (TFT) liquid crystal display. As should be expected from such highly specified technology, it supports VGA.

The other two machines are mono versions, again using the 80386 processor. These have already been seen at the CEBIT show held in the USA in March. The only difference between the two machines is that the former comes with a 20Mb hard disk while the latter has a 40Mb disk. Neither of the mono notebooks offer the same TFT technology although they are both back-lit LCD, and VGA allowing 256 shades of grey to be displayed.


• The PCW 9256. Already revealed by express, it signals the end for 8000s

PCWs : NO SURPRISE

The two PCWs come as no surprise to the industry. It as long been expected that the 8000 series would be dropped, and that due to problems with the production of 3-inch drives the PCW range would have to make use of the the more popular 3.5-inch drives which are already used in PCs, Macs, Amigas, and STs as standard. Aside from using these drives and the inclusion of bubble-jet printers there has been no real change from the PCW9512.

GAMES BUNDLE

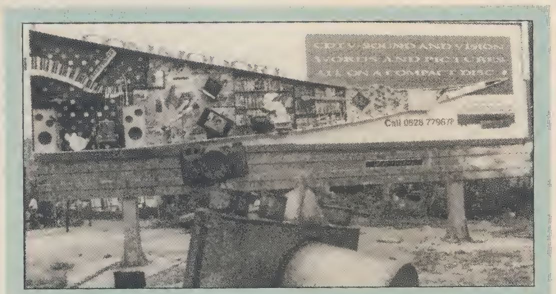
The final launch (again revealed by *Express* ahead of the pack) is the PC5286 Games Pack. Bundled with an Ad-Lib sound card, speakers, joystick and three highly rated games, *Prince of Persia*, *Links Golf* and *F-15 II*, the £899 (plus VAT) price may well pitch the machine out of the conventional, teen lead computer leisure market. ■

Up in the air with Evesham

• The Amiga is flying high at the moment as the most successful 16-bit machine ever, but this is ridiculous!

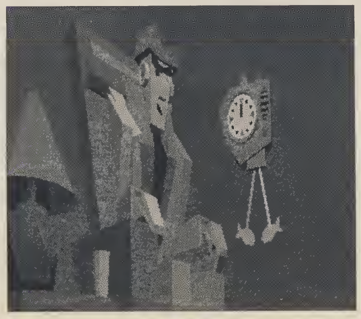
Doyen of 16-bit retailing, Evesham Micros is up in the air, or at least it will be in November when it launches 10,000 balloons from the Pebble Mill studios in Birmingham, in aid of Children in Need.

Evesham's customers will pay £1 for a ticket, which is then attached to a balloon. The owner of the ticket which goes the furthest and is returned by 31 January 1992 will receive an Amiga 500 and colour monitor. The sender of the winning ticket will win an Atari Lynx. Evesham Micros is on 0386 765500. ■



Commodore's CDTV shocker

Not to be outdone by a picture of a bloody baby advertising clothes, Commodore has erected a 96 sheet 3D poster which contains real objects aimed at shocking people into buying CDTV. But how long the objects will remain attached to the hoarding?


•Not the latest Dire Straits million buck video, it's Paul J Franklin (any relation?) winning Amiga animation

Are you an Amiga winner?

The Amiga Centre Scotland has announced the winners of its 1991 Amiga Animation Festival.

Judging for the competition, which offered prizes ranging from *Amiga Format* subscriptions to a Harlequin 1500, took place on 27 August. The judges included a professional graphic artist, an animator, and a lecturer in film and television. The quality of entries was, as usual, high.

A spokesman for the Amiga Centre Scotland said: "We were very pleased to receive nearly 50 entries this year, and very impressed with the creativity, originality and technical quality of many of the animations".

The overall winner in the non-Commercial class was Paul J Franklin with his Mondo Data Phage demo. The winner in the commerical class was Ken Blakey with The Fly. For a full list of winners call Amiga Centre Scotland on 031-557 4242.

The total value of all the prizes is estimated at £6,000. Another festival is planned for next year, so have your palettes primed. ■

• Exclusive first look pictures of Amstrad's next generation machines

FOR THE 90'S

SUGAR SETS OUT HIS STALL – THOSE SPECIFICATIONS IN FULL

PC5286

- 16MHz Intel 80286 processor
- 1Mb RAM expandable to 2 or 4Mb onboard
- Two 16-bit expansion slots
- Single 1.44Mb 3.5 floppy configuration
- Single 3.5 floppy and single 1.44Mb 3.5 floppy configuration
- From £645.07 to £1,173.82

PC5000 RANGE

PC5086 & PC5286 SHARED FACETS:

- 300mm wide x 70mm high x 270mm deep
- 14-inch VGA monitor

OPTIONS FOR:

- flatscreen mono VGA with options for:

– 0.42 dot pitch medium resolution colour VGA colour
– 0.29 dot pitch high resolution colour VGA monitor

- Serial and parallel ports
- PS/2 type mouse
- PS/2 type keyboard
- MS-DOS 3.3
- Counterpoint custom frontend

PC2086

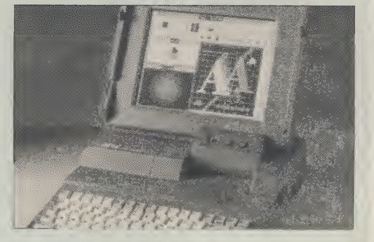
- 8MHz Intel 2086 processor
- 640K RAM
- Two 8-bit expansion slots
- Single single or double density 1.4Mb 3.5- inch floppy configuration
- Single or double density 1.4Mb 3.5-inch floppy and 40Mb hard drive configuration.
- From £468.82 to £997.57

ANB-386SX20
ANB-386SX40

- 16MHz 80386SX
- 1Mb RAM expandable to 2 or 5Mb (386/20) 2Mb RAM expandable to to 5Mb with custom card
- 20Mb hard disk/40Mb hard disk
- 280mm wide x 216mm deep x 52mm high
- VGA mono monitors
- PS/2 type mouse
- Internal custom modem slot
- £1,643.82 (20) £1,996.32 (40)

ACL-386SX NOTEBOOK

- Back-lit TFT colour LCD monitor
- 20MHz 80386SX processor
- 4Mb RAM
- 120Mb hard disk
- Built-in micro trackball
- MS-DOS 5
- Windows 3
- £4,698.82



Details of the PCW range have already been carried exclusively in *Express*, but to recap:

- The PCW9256 will cost £410.07.
- The PCW9512 Plus will cost £527.57 with daisywheel printer, or £645.07 with the Canon BJ-10e.

Both machines have paper white screens and single 3.5-inch drives, the CP/M operating system and LocoScript.

Going under...

Prairieteck, the US company which patented the 2.5-inch hard disk, has been forced to lay off 300 staff and cease business.

Following the news of the closure of Rodime, the company which brought us the 3.5-inch hard drive, (see *Express* 148), the Prairietek news must come as a blow to innovative companies everywhere. ■

Lotus is riding high

The chap on the bike is John Madden, not the American football coach of Sega Mega Drive fame, of the Lotus Freelance Graphics group. He is cycling the length of the UK in order to raise £50,000 in aid of children with Cerebral Palsy. He is expected to arrive at John O'Groats on September 22.

The majority of the money, which is being donated by Computacenter and Lotus Development, will go towards assisting the Bobath Centre which is one of the main centres of research and treatment of Cerebral Palsy.

The balance will go to regional centres in the UK. ■

Intel error makes IBM suffer

Big Blue has had to withdraw its 50MHz 80486 upgrade cards for the PS/2 models 90 and 95 because Intel, which makes the processor has discovered an unspecified fault.

IBM and Intel have been working closely together for 10 years now, but recently the once close relationship has been seen to have gained some distance.

The 486 upgrade has been shipped since 12 August, but according to Tara Sexton of IBM, only "a limited number" have so far got into the hands, and PS/2s, of customers. Ms Sexton would not actually confirm how many a "limited number" was in the light of the fact that IBM has sold thousands of PS/2s.

In a statement which covered a reddening embarrassment over IBM's normal ice-blue image, the company claimed that the withdrawal was merely: "a precautionary measure until Intel can determine the exact problem".

Intel has already admitted that it has had to cease production of the 80486 due to the discovery of a few "minor bugs". It does however, expect to restart production in the near future.

To see what UK company Amstrad is doing with the 486's older brothers, the 286 and 386, turn to page 5. ■

Shoot from the lip

"I think everybody gives credit to Go (computers), but Go will be crushed."
Apple-founding wonderkid Steve Jobs, now of Next, talking about the pen-input specialists Go Computers in a *Fortune Magazine* interview.

"That's one of the nastiest comments I've ever heard."
Microsoft's chief executive officer, Bill Gates replying to jabbing Jobs in the same interview.

"I still think that tens of millions of PC owners needlessly use a computer that is far less good than it should be"
Steve Jobs, with dander firmly up takes a swipe at Gates and Windows.

"Not yet." "Probably not."
A Commodore spokesman replying to questions about rumours of a Commodore games PC.

'Also lurking around the (CES) show floor were Codemaster's US operation; Camerica - a rather odd firm which is promising to publish NES games, while in the middle battle between Nintendo and Galoob over the Game Genie video game enhancer'
Electronic Gaming Retail News.
What Codemasters are odd? And the Game Genie is a Video Game Enhancer?

Sheep more intelligent than best robot
A *Guardian* sub-headline.

The ST prospero's

No, C and BASIC are not the only programming languages around, the highly revered and ancient Fortran is also alive and looping. Especially for the Atari TT, as a new implementation has been made available for this machine.

Prospero for the TT is based on the already successful versions for the ST, but has been reworked to cope with 68030 and 68881/2 processors used by the TT. Price is £199.75.

For more information call Prospero Software on 081-741 8531. ■

EXPRESS...

The world's first satellite guided tractor was in operation last week. Fitted with £10,000 worth of computer-fed smart card reader, the Humberside operation is expected to increase yields from farmer's fields.

...SNIPPET

Captain Zilog chips in fast

Zilog, which produces the Z80 chip so familiar to PCW and the Z80A which is loved by Speccie owners the world over, has announced the launch of the Z86C94 disk controller chip.

It comprises an 8-bit controller and 16-bit digital signal processor (DSP). Possible uses for the chip include 2.5-inch disk, tape drives, 1.8-inch disk, and even voice/data control.

The core of the chip is the Z80, and the processor itself is aimed at systems slightly faster than the PCW of Speccie; 24MHz is the targetted clock speed for Zilog's new baby. ■

WHAT'S NEW

A whole page full of quick guides to the latest hardware and software available for a wide range of machines and applications. No frills, just facts...

• **Silica Systems has murdered the price of this monitor, cutting it from £650 to £299. A near infinity of colours are also available to you**

Flicker knifed

PRODUCT: VGA Colour monitor
NAME: Citizen ProCM14i multi-scan
Compatibility: Most 16-bit machines

Silica Shop has slashed the price of its colour Enhanced VGA monitor from £650 to £299.

The monitor is multi-scan and uses Sony's Trinitron tube which provides screen resolutions of up to 1024x768 with a dot pitch of .25mm. It also supports 'flicker free modes'.

It also works in three screen modes of 640x480, 800x600, 1024x768. It is only in the final mode that it runs flicker-free.

Finally, as a one of the major paradoxes in computing, Silica also claims that the monitor can 'also display an almost infinite number of colours'.

Price: £299
Availability: Now
Target users: PC, Amiga, ST
Contact: Silica Systems: 081-309 1111
Perceived competition: Philips, Hitachi

Lap it up

PRODUCT: 386SX laptop
NAME: Compusys ALT-386SX
COMPATIBILTY: N/A

Not to be confused with the Amstrad ALT range of computers, this new machine from Compusys comes with a removeable hard drive. An upgrade to the ALT-286, the 386SX has the following specifications: a 20MHz processor, 32K of cache memory, 2Mb of RAM expandable to 5Mb, *Windows 3.1* and the lastest version of *MS-DOS* (version 5) already installed.

• **Computing on the move takes on an even more mobile complexion when you can take your hard drive away from the machine and bring it home with you**

There is also a choice of removable hard disk in either 40, 80 or 120Mb format. The screen is a liquid crystal display.

Now the 386 processor is no longer cutting edge now that the 80486 has hit the market in bulk, the major advantage this 386SX has over its rivals is the option to take a removeable hard disk. This offers security, you can take it away with you and store it in a safe, and even the ability to connect it to your desktop machine.

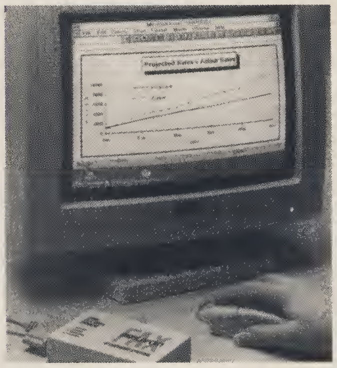
Price: £1,499
Availability: Now
Target users: Security conscious PC users
Contact: Compusys: 0494 764 858
Perceived competition: Laptops such as the Toshiba T1000 series, or the Sharp series. Although these do not come with removable hard drives.

Facing the fax

PRODUCT: Facsimile software
NAME: FaxNow!
COMPATIBILITY: WIndows-based PCs

Faxing has now become second nature for many business users and teleworkers. But so far there has not been suitable software for the Windows graphic user interface (GUI) until now. This has left users who want to use modems or fax cards with the option of reverting to the DOS command line interface (CLI), rather undermining the point of spending cash on Windows.

FaxNow seeks to solve this problem by interfacing with the WorldPort 2496 modem via Windows. The software enables the user to multi-task, incorporate text and graphics into faxes. The text and graphics can be imported from standard programs such as *Word for Windows, Ventura Gold* and *Excel.* Users can also make use of scanners to bring in digitised photographs.



• **Faxing is now an integral part of business life, and so is running Windows on the PC. Now the two facets join forces**

Useful tools for heavy fax loads are also included such as the ability to create personalised cover sheets, along with the inclusion of fax directories to expedite mass faxing automatically.

Price: £703.82 (with the 2496 modem); £175.07 as an upgrade if you already own the modem
Availability: Now
Target users: PC Windows users.
Contact: Andest: 0908 263300
Perceived competition: At the moment no other company provides Windows-based fax software, but, it's possible to run fax software from a Windows DOS session.

ROM release

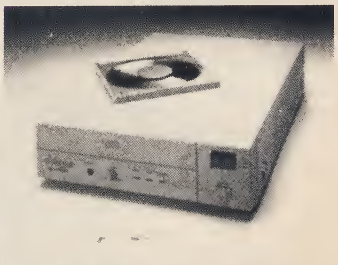
PRODUCT: CD-ROM Drive
NAME: Hitachi CDR1750s
COMPATIBILITY: Apple Mac, Acorn Archimedes, Workstation

Every week we seem to cover a new CD-ROM drive. Although the releases are merely a trickle they could well be turning into a flood before the end of the year, especially with more software publishers releasing the value inherent in 550-650Mb of quick access data storage.

Hitachi's latest offering is claimed to be the fastest yet. It is capable of accessing data at an incredible 320 milliseconds. The unit comes with an airtight casing, double doors and Hitachi's read lens cleaner.

It also comes fully SCSI equipped and has a custom CD-Mac interface built-in. The drive is not truly PC-compatible – you have to buy an adaptor to use it. Software drivers and cables are included. An audio-package is included enabling standard music CDs to be played via the device.

Price: £645
Availability: Now
Target users: Arc and Mac users who require high speed access, mass storage.
Contact: Hitachi New Media: 081-849 2089
Perceived competition: Not even Hitachi's other drives match this one's speed. ■



• **CD-ROM drives are multiplying faster than their own ability to access data and this new Hitachi model is rated as the fastest in the industry at the moment**

The pen is mightier than the dot

PRODUCT: Ink-jet printer
NAME: Printapen
Compatibility: Any RS232 equipped computer

Small is still beautiful, especially if you're on the move. This new printer has a startling feature – it is a hand-held and instead of bringing paper to printer, you simply bring printer to paper.

What brings an added attraction to users of personal organisers such as the Psion, or laptops with RS232 ports, or in fact to anyone with an interest in gadgets, is the fact that the printer is used like a pen. You run it over the paper to produce the required image.

Ideally, this should be of immense help in terms of cheque printing, cash payment slips and even library tickets! The manufacturers have even equipped the printer with the ability to print bar codes and other special characters.

The really outward bound types among you will also be pleased to hear that the printer is shockproof, waterproof, and resident to hydro-carbons such as methane.

• **Don't look at the Psions, look at the devices attached to the top bearing the legendary Datacap label. It's an ink-jet printer which works like a pen**

Price: £249
Availability: Now
Target users: Users of portable computers
Contact: Datacap: 0635 523033
Perceived competition: Nothing of this size or capability.

SEIKOSHA DOT MATRIX PRINTERS

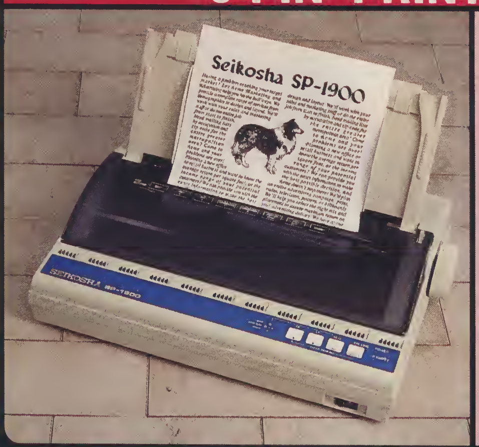
Silica Systems are pleased to recommend Seikosha printers at ***NEW LOW PROMOTIONAL PRICES***. The Seikosha range is built to exacting standards, by a company that is used to manufacturing high quality precision products. In fact, you may find that you are already wearing one of these products on your wrist as Seikosha are part of the massive Seiko/Epson group (with a turnover of £6 billion and over 18,000 staff!).

When you buy a Seikosha printer from Silica, we will give you a Silica Printer Starter Kit (worth £25+VAT = £29.38) FREE OF CHARGE, to make sure you get off to a flying start with your new printer. For further information on the Seikosha range, complete and return the coupon below. Or, if you can't wait to get your hands on a new low priced Seikosha printer, telephone our mail order hotline, 081-309 1111 to place your order now.

- ***FREE DELIVERY*** Next day - anywhere in the UK mainland
- ***FREE STARTER KIT*** Worth £29.38 with every Seikosha printer.
- ***FREE HELPLINE*** Technical helpline during office hours.
- ***1 YEAR WARRANTY*** With every Seikosha printer from Silica.

Printer speeds are quoted as follows:
SD = Superdraft 15cpi, D = Draft 12cpi, NLQ = Near Letter Qualtiy 12cpi, LQ = Letter Quality 12cpi.

9-PIN PRINTER



192CPS DRAFT **80** COL

- *Seikosha SP-1900AI - 9 pin - 80 col*
- *192cps Draft, 48cps NLQ*
- *1K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 144×72dpi*
- *Epson and IBM Emulation*
- *Paper Parking*
- *FREE Printer Starter Kit*

SP-1900AI RRP	£179
STARTER KIT	£25
TOTAL RRP:	£204
Less Silica Saving:	£105
SILICA PRICE (EXC VAT):	£99

£99

+VAT= £116.33 Ref: PRI 8190

9-PIN PRINTERS

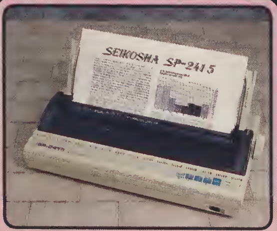
192 CPS DRAFT **80** COL

- *Seikosha SP-2000AI - 9 pin - 80 col*
- *192cps Draft, 48cps NLQ*
- *21K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 144×72dpi*
- *Epson and I8M Emulation*
- *Optional Auto Sheet Feeder Unit*
- *FREE Silica Printer Starter Kit*

RRP:	£199
STARTER KIT	£25
TOTAL RRP:	£224
SAVING:	£95
SILICA PRICE:	£129

£129

+VAT=£151.58 ref: PRI 8200



240 CPS DRAFT **136** COL

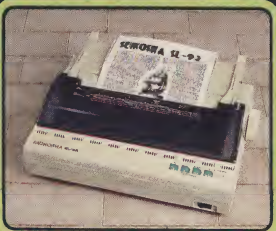
- *Seikosha SP-2415AI - 9 pin - 136 col*
- *300cps SD, 240cps Draft, 50cps NLQ*
- *17.5K Printer 8uffer + 5 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×144dpi*
- *Epson and IBM Emulation*
- *Superior Paper Handling*
- *FREE Silica Printer Starter Kit*

RRP:	£320
STARTER KIT	£25
TOTAL RRP:	£345
SAVING:	£136
SILICA PRICE:	£209

£209

+VAT=£245.58 ref: PRI 8215

24-PIN PRINTERS



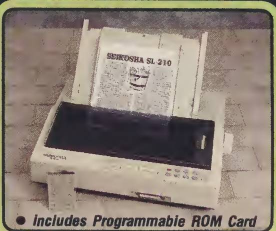
240 CPS DRAFT **80** COL

- *Seikosha SL-92AI - 24 pin - 80 col*
- *240cps Draft, 80cps LQ*
- *44K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson Emulation*
- *Optional Font ROM - 7 Fonts*
- *FREE Silica Printer Starter Kit*

RRP:	£335
STARTER KIT	£25
TOTAL RRP:	£360
SAVING:	£171
SILICA PRICE:	£189

£189

+VAT=£222.08 ref: PRI 8292



- *Includes Programmable ROM Card*

324 CPS DRAFT **80** COL

- *Seikosha SL-210AI - 24 pin - 80 col*
- *324cps Draft, 108cps LQ*
- *5K Printer Buffer + 9 Fonts*
- *Parallel and Serial interfaces*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP:	£599
STARTER KIT	£25
TOTAL RRP:	£624
SAVING:	£255
SILICA PRICE:	£369

£369

+VAT=£433.58 ref: PRI 8321

WORLD'S 1ST 'NOTEBOOK' DOT MATRIX PRINTER

- *Handles 1+2 Multipart Forms*
- *Rechargeable Battery Pack Optional*

144 CPS DRAFT **80** COL

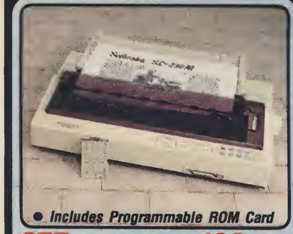
- *Seikosha LT-20 - 24 pin - 80 col*
- *180cps SD, 144cps Draft, 60cps LQ*
- *1K Printer Buffer + 9 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×180dpi*
- *I8M Emulation*
- *Built-in 50 Sheet Auto Feeder*
- *FREE Silica Printer Starter Kit*

RRP:	£369
STARTER KIT	£25
TOTAL RRP:	£394
SAVING:	£125
SILICA PRICE:	£269

£269

+VAT=£316.08 ref: PRI 8820

BUSINESS PRINTERS (WIDE-BODY)



- *Includes Programmable ROM Card*

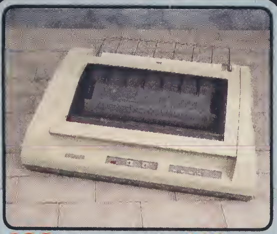
277 CPS DRAFT **136** COL

- *Seikosha SL-230AI - 24 pin - 136 col*
- *277cps Draft, 92cps LQ*
- *5K Printer Buffer + 9 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP:	£699
STARTER KIT	£25
TOTAL RRP:	£724
SAVING:	£275
SILICA PRICE:	£449

£449

+VAT=£527.58 ref: PRI 8423



462 CPS DRAFT **136** COL

- *Seikosha 8P-5500AI - 8 pin - 136 col*
- *462cps Draft, 106cps NLQ*
- *18K Printer Buffer*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×144dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP:	£1299
STARTER KIT	£25
TOTAL RRP:	£1324
SAVING:	£325
SILICA PRICE:	£999

£999

+VAT=£1173.83 ref: PRI 8755

- *Low Form Tear-off*

520 CPS DRAFT **136** COL

- *Seikosha 8P-5780AI - 18 pin - 136 col*
- *780cps SD, 520cps Draft, 130cps NLQ*
- *20K Printer 8uffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *Handles 1+6 Multipart Forms*
- *FREE Silica Printer Starter Kit*

RRP:	£1699
STARTER KIT	£25
TOTAL RRP:	£1724
SAVING:	£325
SILICA PRICE:	£1399

£1399

+VAT=£1643.83 ref: PRI 8780

800 CPS DRAFT **136** COL

- *Seikosha SBP-10AI - 18 pin - 136 col*
- *800cps Draft, 200cps NLQ*
- *64K Printer Buffer + 2 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
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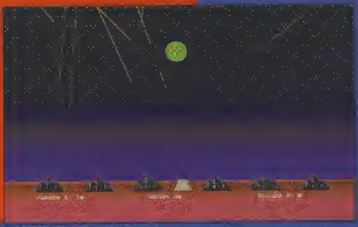
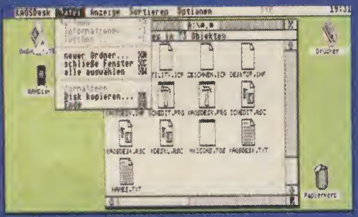
DISK CONTENTS

AMIGA



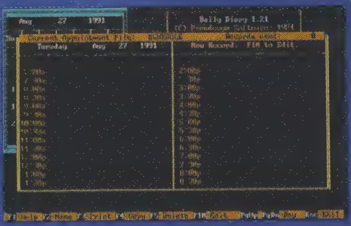
Missile Command ● Concentration

ST



Kaosdesk ● Fractal Landscape

PC



Daily Diary ● Commander Keen

COVER DISK 2

Whether it's games or applications you're interested in, they're all here on this week's tri-format Cover Disk!

As promised, here is the sequel to last week's inaugural *New Computer Express* Cover Disk. For those of you out there who didn't get a copy of last week's issue of *New Computer Express*, we are the only magazine in the world which comes with a tri-format Cover Disk. And not only that: we bring you one *every week.*

Tri-format, as its name suggests, means we have software for *three* different computer formats all on the one disk. The computers supported are the most popular of the 16-bit machines: the Amiga, Atari ST and PC.

The disk format itself is unique; developed especially for *Express* by Rob Northen Computing. This lets us dedicate as much disk space as practically possible to each of the three computers.

Each week the ratio of disk space devoted to each machine will change, largely depending on what software is put on the disk. So, if you feel aggrieved that your machine doesn't get a lot of support on one particular week, be patient; the next week it most likely will.

QUALITY AND VARIETY

We try to bring you a variety of quality software, compiled from the areas of public domain and shareware, demos of commercial games and applications, reader contributions, as well as anything else that deserves to be put on the disk.

Of course, although we decide what software is put on the disk, we'd like to hear what you want on it, as well as any other ideas, suggestions or criticisms you may have. Send your feedback to: Cover Disk Feedback, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW.

BACKING UP

Because the *Express* Cover Disk is an unusual disk format, before you do anything with the software it's essential that you make a back-up of the disk.

Instructions on how to do this are provided on the pages dedicated to each machine.

Be warned that these may be a bit tricky to carry out, but this shouldn't stop you backing the disk up as it really needs to be done.

Another important thing to remember is that you must *never* save data directly to the Cover Disk itself. Apart from using a back-up all the time, you should always keep the Cover Disk write protected (so the hole ath the top right of the disk is showing), just in case you do accidentally write to it. If the disk is written to, the special file format will get corrupted and you may well destroy all of the programs on the disk, including those for your own machine.

PROBLEMS?

Each Cover Disk is tested to see if it works on as many system configurations as possible, but because of the complex nature of the disk format some problems may arise. If they do then write in and tell us about them, explaining what went wrong, the type of system and set-up you have and if you have found a solution to it.

This way, we can inform other readers of the problem (and, hopefully, a solution) in the next possible issue of *Express*. And because we're a weekly magazine, you'll all be informed of these much sooner than in any other publication.

Send your information to: Cover Disk Problems, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW.

EXPRESS DISCLAIMER

We have done our best to ensure that the programs on the *Express* Cover Disk work well and are free of known viruses. However, we do not accept liability for any consequences that may arise from using the disk or the programs on it.

INTERESTED ?

If you're a software house or Public Domain/shareware company and are interested in contributing software to be used on the *Express* Cover Disk, we'd like to hear from you now!

EARN UP TO £1,000

We need your programs for the *Express* Cover Disk, whether they are utilities, games, applications or demos for any of the three supported formats.

If you think you've written something that other *Express* readers would find useful, interesting or just plain fun, then send it in! We're on the look out for any software for the Amiga, ST and PC, and if we use it, we'll pay for it – up to a maximum of £1,000!

As you all know, *Express* is a weekly magazine which means it comes out at least four times more often than the monthlies. So now you've got that many more chances to contribute your creation, earn some money and see your name in print.

GUIDELINES TO FOLLOW

1 Please document the software as much as possible. We'll be getting heaps of programs and to have to work out how to use them all will take up what little time we have to put together a great disk.

2 Check for big mistakes in the program such as (any) bugs, errors, or file corruptions. If you find any, fix them and send the program in some other time. Just think: if it works, then we might even use it.

3 Check for little mistakes in the program such as misspelled words. This may take a little extra time, but it will look that much more professional.

4 Test everything before you send it in. If it's a duff disk then we won't be able to do anything with it, will we?

5 In the case of PC software, try to use CGA as well as EGA and VGA graphics, and even MDA (monochrome) if possible. Also, if the program uses a mouse, try to make it so that it is an option and not an absolute necessity. Basically, try to accommodate as many PC users as possible.

NB: Unfortunately we won't be able to return any disks sent in to us. Not even if you include a SAE. The monthly magazines can do that, but because we put out a disk every week there is simply no time to arrange anything along those lines.

Once you've done all that and filled in the form on page 11, send all your contributions to: Cover Disk Contributions, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW.

AMIGA

DISK INFORMATION

PROGRAM: Missile Command
DESCRIPTION: Game
DIRECTORY: Missile Command
FILE (S): Missile_Command, Missile_Command.doc

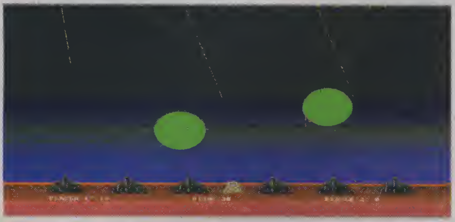
PROGRAM: Concentration II
DESCRIPTION: Game
DIRECTORY: –
FILE (S): Concentration

MISSILE COMMAND

Experienced games players who have seen *Terminator 2*, the latest Schwarzenegger blockbuster, may have recognised *Missile Command*, the classic arcade game, being played in one of the movie's scenes.

Well, you can't accuse *New Computer Express* of not being topical, because here's your very own version of the game, courtesy of the Cover Disk.

And don't worry, we haven't included *Missile Command* just because it's in the movie – it's a great game in it's own right!



Bomb the Bass takes on a whole new meaning in *Missile Command*, but the idea is to *stop* them hitting the bases.

LOADING THE GAME

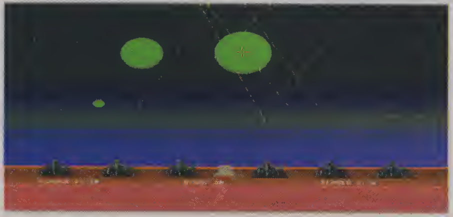
To load *Missile Command* turn your Amiga on, insert the Cover Disk in your disk drive and wait for the Workbench screen to come up.

When the disk icon appears (it's called Tri-Format), double click on it with the mouse pointer. This opens up a window with two folders – one of which is labelled Missile_Command. Double click on that folder, and when the next window appears, double click on the Missile_Command icon. The game then loads.

To see the documentation, double click on the Missile_Command.doc icon in the same window.

HOW TO PLAY

When the game loads, press the mouse button to start the game. Choose whether you want a one or two player game when prompted, by pressing 1 or 2 on the keyboard.



'Ooh look, what are those green things in the sky?'. They're not huge blobs of lime icecream but rather your intercepting missiles.

As for how to play the game, to put no finer point on it: blast the incoming laser rays to smithereens!

You have to stop the rays hitting the five cities you have to protect. The only way of doing that is to explode your missiles to intercept the incoming rays.

After the first couple of levels, an added problem arises: bombs are also dropped. These too have to be stopped from hitting the cities below by intercepting them with your missiles. Like most games, the further you get, the more frantic things become.

CONTROLS

All the action is controlled with the mouse. The mouse moves the crosshead on the screen for you to target your missiles, and pressing the left mouse button launches them. ESC ends the game and, if pressed again, quits the program. SPACE pauses the game. The 'S' key turns the sound off and on.

Missile Command can multi-task with other programs, but this depends on the amount of memory you have and the type of programs you are running.

CONCENTRATION

The powers of memory – and we're not talking bits and bytes here – are so great that no-one can comprehend just how great they are. We need to develop these brain powers at an early age and one way of doing that could be with this little number: *Concentration.* If you know about the card game that is called Match Pairs, among other things, then the idea behind *Concentration* should be familiar to you.

LOADING THEGAME

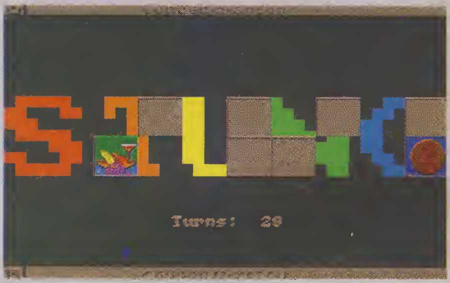
To load *Concentration* turn your Amiga on, insert the Cover Disk in your disk drive and wait for the Workbench screen to come up.

When the disk icon appears (it's called Tri-Format), double click on it with the mouse pointer. This will open up a window with the *Concentration* icon displayed within it. Double click on that icon, and the game will then load.

HOW TO PLAY

When *Concentration* first loads, a page of instructions appears explaining how to play the game. Clicking on the left mouse button starts the game. As the page of instructions explains, the object of *Concentration* is to guess a hidden five letter word. Each time you find matching pictures, two pieces of the word will be revealed. You can guess the hidden word at any stage during the game, but unless you're psychic, you'll have to clear a few of the tiles first.

In terms of educational value, the game has several notable features. Most obvious is the way the program entices you to exercise your brain cells, but another significant feature is the way it helps to develop a recognition of the alphabet as letters are gradually revealed underneath the tiles. ■



Can you guess what the hidden word is? If not, just match up a couple more tiles to reveal some more of the word

AMIGA BACK-UP COPY

1 Start your Amiga with your Workbench disk.

2 Take a blank disk and initialise it (instructions in your user manual).

3 Now enter the CLI, by double clicking on the CLI icon that is in your System draw on a standard Workbench disk.

4 Then enter the following CLI commands to set up our working environment (remember to press <RETURN> after each):

```
MAKEDIR RAM:C
COPY C:COPYIDIRIDELETE RAM C:
COPY C:MAKEDIRIINSTALL RAM C:
PATH RAM:C ADD
PROTECT RAM:C RWE
PROTECT RAM:C/COPY RWE
PROTECT RAM:C/DIR RWE
PROTECT RAM:C/DELETE RWE
PROTECT RAM:C/MAKEDIR RWE
PROTECT RAM:C/INSTALL RWE
```

5 Once you have entered the commands and the drive light has gone out, take out your Workbench disk and put your *New Computer Express* Cover Disk in the internal drive (DF0:). To start copying, enter the following CLI command:

```
COPY DF0:#? RAM:
```

6 During copying, the machine will display a list of the files being copied. Once copying has finished, remove your Cover Disk and insert your newly formatted disk into the internal drive and enter the following commands:

```
COPY RAM:#? DF0:
DELETE RAM:#?
```

7 That's the first part of the Cover Disk copied. The next step is a bit more tricky.

Firstly, remove your copy disk and insert the Cover Disk into the internal drive. Enter the following:

```
DIR DF0: OPT D
```

The Amiga should then display a list of all the directories on your Cover Disk which will looking something like the following:

```
c (dir)
Concentration
devs (dir)
l (dir)
libs (dir)
Missile_Command (dir)
s (dir)
```

Write down this list on to a piece of paper (the '(dir)' extension is not needed).

8 With your Cover Disk in the internal drive, each directory that was listed has to be copied individually from the Cover Disk on to your copy disk.

So, as an example, to copy the Missile_Command directory you would enter:

```
COPY DF0:Missile_Command ALL RAM:
```

Now, remove the Cover Disk and insert your copy disk and type:

```
MAKEDIR DF0:Missile_Command
COPY RAM: ALL DF0:Missile_Command
DELETE RAM:#? ALL
```

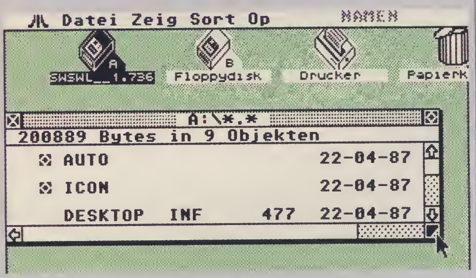
9 Now repeat stage 8 for all the directories on the Cover Disk master. (So, in the CLI commands above, replace each instance of 'Missile_Command' with the name of the directory to be copied). Once all the directories have been copied you will have a successful copy of the Cover Disk.

10 The final step in backing up the Cover Disk is to install it to make it bootable:

```
INSTALL DF0:
```

ST

KAOSDESK



```
A:\*.*
200889 Bytes in 9 Objekten
  AUTO                  22-04-87
  ICON                  22-04-87
  DESKTOP  INF     477  22-04-87
```

In low resolution *Kaosdesk* is usable but changing the screen to medium resolution makes everything even clearer

One of the problems of the Atari ST TOS desktop is that it is, frankly, ugly. The icons are very 'square' in shape, the colour of the desktop is a putrid green, and when the desktop is used, it moves sluggishly.

Commercial desktop replacements such as *Neodesk* and *Harlekin* have gone a long way to improving the appearance and functionality of the Atari ST desktop, but at a price – costing at least £19.95.

Now though, on your very own Cover Disk, is a brilliant replacement desktop called *Kaosdesk* that incorporates many of the good features of not only the alternative ST desktops, but also the operating systems of other machines like the Macintosh and the Amiga.

GET LOADING

Insert the Cover Disk into your disk drive. Open the ST folder by double-clicking on the icon labelled ST, and then double-click on the KAOSDESK icon to open the program's folder. It is a good idea to change to medium resolution as this will make the text easier to read. To do this go to the Options menu on the standard ST desktop, and choose medium resolution from the Set Preferences option. Then you just have to double-click on the KAOSDESK.PRG icon to run the program.

To see the documentation for *Kaosdesk*, double click on the KAOSDESK.TXT icon. When the ST displays a requester saying that KAOSDESK.TXT is a document file, click on SHOW and the document will appear on-screen. There are also a lot of other folders and files within the main KAOSDESK folder, all of which perform functions in the program. These include:

- AUTO (folder) – SHELMAN.PRG.
- ICON (folder) – includes ICNEDIT.PRG, ICNEDIT.RSC, MKICONS.TOS, NAMES.TXT, READ_ME.TXT

The Icon Editor, called ICNEDIT.PRG, enables the redefining of icons on the Kaosdesk desktop.

- The ICON folder also contains a large number of alternative icons for *Kaosdesk* to use. See the documentation for how to use these icons on the desktop.

FABULOUS FEATURES

Once loaded, *Kaosdesk* behaves just like the basic ST desktop, but with its additional functions of course. It's functions are achievable by using the mouse and keyboard as normal. There is a large document file called KAOSDESK.TXT included on the disk which gives comprehensive instructions on how to use the program.

FRACTAL LANDSCAPE

Fractals are a branch of mathematics which attempt to recreate realistic landscapes and the general principles of nature. This is usually in a graphics form, as is the case here, but it can also be used to generate music, for example. This may be a daunting prospect, but with *Fractal Landscape*, you can create your own fractal images quickly and easily, and even save the images to use in a graphics package or your own programs.

HOW TO LOAD

Insert the Cover Disk into your disk drive. Open the ST folder by double-clicking on the icon labelled ST, and then double-click on the FRACTAL icon to open the program's folder. From you just have to double-clicking on the FRACGEN.PRG icon to run the program.

USING THE PROGRAM

When *Fractal Landscape* loads, it immediately starts to draw a fractal landscape. All you'll see on the screen for are a number of dots that gradually spread across the screen. Once this finishes a wonderfully realistic landscape is displayed on the screen. Press space to change between the menu and the graphics screen.

On the options screen you can:

F1 – Create a new landscape – The program asks you for an 'f' value (which defines the 'ruggedness' of the landscape) and a seed (which can identify the landscape) – try landscape 12345 with an 'f' value of 0.8.

F2 – Set viewpoint – Enables you to define your view position in the 3D universe and the viewing direction. Enter the x,y,z co-ordinates and then the x,y,z co-ordinates of the point on which you would like the screen to be centred. The surface lies within the limits –320 and 320 in the x and y directions.

Realistic landscapes like these are easily achievable with *Fractal Landscape*

F3 – Set light position – Defines the x,y,z co-ordinates of the single light source.

F4 – Define sea level (and snow level in lo-res) – sea level and snow line heights can be set to any level.

F5 – Save screen (Degas) – saves the landscape as a standard, uncompressed Degas file.

F6 – Set detail of plot – The detail factor is between 0 and 6 which gives a variety of surface resolutions: 0 = 2x2 facets; 1 = 4x4; 2 = 8x8; 3 = 16x16; 4 = 32x 32; 5 = 64x64; 6 = 128x128.

F7 – Landscape information – on landscape and view.

F10 – Quit - Exit the program.

Fractal Landscape was programmed by Jonathan Millar. The complete source of the program is available by sending £5 to: Jonathan Millar, St Catherine's College, Oxford, OX1 3UJ. ■

DISK INFORMATION

PROGRAM: Kaosdesk
DESCRIPTION: Alternative ST desktop
FOLDER: KAOSDESK
FILE(S): KAOSDESK.PRG, KAOSDESK.ICN, DESKTOP.INF, KAOSDESK.RSC, KDESKL.RSC, KAOSDESK.TXT, AUTO (folder), ICON (folder)

PROGRAM: Fractal Landscape
DESCRIPTION: Graphics
FOLDER: FRACTAL
FILE(S): FRACSURF.PRG

ST BACK-UP COPY

1 Format at least one blank disk.

2 Write protect the original *Express* Cover Disk (with the notch open so you can see the hole through the disk) and insert it into the drive. If you've got two drives, insert the Cover Disk into drive B. Double click on the drive B icon to open a window showing the contents of the Cover Disk. If you've only got a single drive a message appears asking you to put disk B in drive A. Just click on OK.

3 Insert one of the blank formatted disks into drive A (removing the Cover Disk if you only have one drive). Double click on the drive A icon and open up another window. You may be asked to insert disk A in drive A - you already have, so just click on OK.

4 Highlight each folder in the drive B Cover Disk window and drag them all into the drive A window, one at a time.

5 If you only have one drive, you're asked to insert disk A and disk B at regular intervals. Be careful not to mix the two disks up!

FANCY CONTRIBUTING? THEN FILL IN THIS FORM

NAME: ....

ADDRESS:...

....

TELEPHONE: .... (day) .... (night)

COMPUTER: Amiga Atari ST PC The name of the program is:

SIZE OF FILE(S): ☐ K

TYPE OF SOFTWARE:
☐ Business application
☐ Game
☐ Music program
☐ Novelty
☐ Technical utility
☐ Art program
☐ Educational
☐ Other

BRIEF DESCRIPTION:...

....

CHECKLIST:
☐ README.DOC file included on disk
☐ Printout of README.DOC (if possible)
☐ Disk is labelled with my name, address, phone number
☐ Disk is certified virus free

DECLARATION:This program is submitted for publication by *New Computer Express*. I have totally written it myself, and I agree to indemnify Future Publishing against any legal action that may arise due to copyright problems.

SIGNED: ....

DATE: ....

PC

COMMANDER KEEN

If you thought *Captain Comic* on last week's disk was a great game, then take a look at this one! *Commander Keen* is widely regarded as one of the best ever shareware games for the PC, because of its colourful graphics, quality presentation, and, more importantly, brilliant playability.

This is the first game in the *Commander Keen* trilogy: *Marooned on Mars.* The other two games in the series, *The Earth Explodes* and *Keen Must Die!*, are not shareware, however.

The story goes like this: Billy Blaze, an eight-year old genius has created an interstellar starship from old soup cans, rubber, cement, and plastic tubing. While his folks are out on the town and his babysitter has fallen asleep, Billy goes into his backyard workshop, dons his brother's football helmet and transforms into Commander Keen, defender of Earth!

In this game, aliens from the planet Vorticon VI find out about the eight-year-old and plan his destruction. While Keen is out exploring the mountains of Mars, the Vorticons steal vital parts of his ship and take them to distant Martian cities. Can Keen recover all the pieces of his ship and repel the Vorticon invasion? Will he make it back before his parents get home?

LOADING THE GAME

Go to the KEEN directory on the Cover Disk (it's within the PC directory) and copy KEEN.EXE to a blank formatted disk or a directory on your hard drive.

HARD DRIVE INSTRUCTIONS

To make a directory on your hard drive, enter C:\ and then type MKDIR KEEN or MD KEEN This will create a directory called KEEN.

Now, go back to the A:\ drive and copy KEEN.EXE across to the hard drive by typing: CD A:\PC\KEEN, then COPY KEEN.EXE C:\KEEN\.

FLOPPY DISK INSTRUCTIONS

To copy it to another floppy disk, insert the Cover Disk and go to the A:\ drive (type A:\). To copy the file, enter CD PC\KEEN and then type XCOPY A:\KEEN.EXE B:\. The computer will ask you to swap disks once, and the file will be copied.

KEEN.EXE is a self-extracting archive. This means that when you run it, it will decompact itself into a number of files. These will take up much more space than the original file did, which is why it had to be compacted it to fit on the disk, and is also the reason why you have to copy it to its own disk.

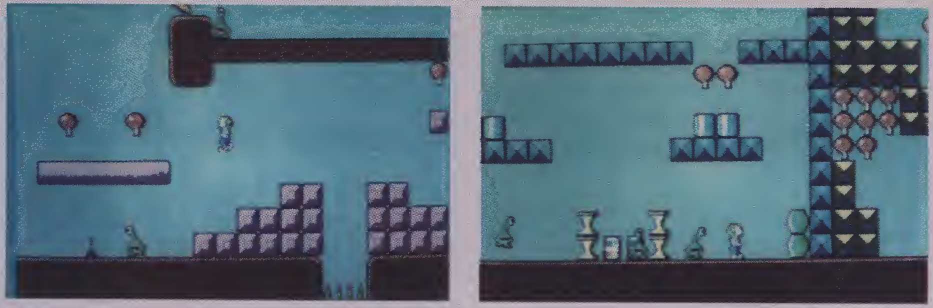
Once the program is unarchived, type KEEN1.EXE to run the game.

DISK INFORMATION

PROGRAM: Daily Diary
DIRECTORY: DIARY
FILE(S): DD121.COM

PROGRAM: Commander Keen
DIRECTORY: KEEN
FILE(S): KEEN.EXE

Type GO.BAT to see the contents of the disk.
NOTE: MS-DOS must be loaded on your system before you use the Cover Disk.
***Commander Keen* requires a PC, XT or AT compatible machine equipped with an EGA display adapter and at least 520K of free RAM.**



These screens from *Commander Keen* demonstrate some of the obstacles that have to be passed

CONTROLS

Commander Keen can be controlled either by a joystick or the keyboard. The keyboard controls are as follows:

Arrow keys – move Commander Keen around
CTRL – Jump
ALT – Use pogo/stop pogo (if you have one)
CTRL & ALT – Fire ray gun
F3 – Re-define keys
SPACE – Status screen

F1 – Help	**F2** – Sound on/off
F3 – Keyboard mode	**F4** – Joystick mode
F5 – Save game	**ESC** – Quit

Joystick controls: Button 1 to jump, Button 2 to use pogo (if you have one). Press both to fire the ray gun.

HOW TO PLAY

When *Commander Keen* first loads, you are presented with an options screen which gives you a choice of:

New Game – start a new game
Continue Game – continue a saved game
Story – sets the scene for the game
About ID – information about the programmers
High Scores – no explanation needed
Ordering info – how to order parts 2 and 3 of the trilogy
Previews – displays two screens from ithe game
Restart demo – no explanation needed

SHAREWARE REGISTRATION

Commander Keen is a shareware program. So, if you like this program and find you play it a lot, you're obliged to send the author of the program a contribution – in this case US$15 (£9) – to thank them for their troubles and to enable them to program more quality creations.

The other two games in the *Commander Keen* trilogy – *The Earth Explodes* and *Keen Must Die!* – are available for $15 (£9) each. You can buy all three for $30 (£18) which will get you a special hints and tricks sheet, the cheat mode password, the latest version of each game as well as several free bonus games.

Write to: Apogee Software, PO Box 476389, Garland, TX 75047, USA.

DAILY DIARY

If need be, you can keep track of your appointments for every hour of every day with *Daily Diary*

Do you have problems keeping track of what you're doing today (or next week, next month) ? *Daily Diary* helps you get organised by keeping track of all your appointments and events.

TO START THE PROGRAM

Go to the DIARY directory (it's within the PC directory) on the Cover Disk and copy DD121.COM to a blank formatted disk or a directory on your hard drive.

HARD DRIVE INSTRUCTIONS

To make a directory on your hard drive, enter C:\ and then type MKDIR DIARY or MD DIARY. This will create a directory called DIARY.

Now, go back to the A:\ drive and copy DD121.COM across to the hard drive by typing: CD A:\PC\DIARY, then COPY DD121.COM C:\DIARY\.

FLOPPY DISK INSTRUCTIONS

To copy it to another floppy disk, insert the Cover Disk and go to the A:\ drive (type A:\). To copy the file, enter CD PC\DIARY\ and then type XCOPY DD121.COM B:\. The computer will ask you to swap disks, and the file will be copied.

DD121.COM is a self-extracting archive. This means that when you run it, it will decompact itself into a number of files. These will take up more space than the original file did, which is why it had to be compacted it to fit on the disk, and is also the reason why you have to copy it to its own disk. Once you have copied the program, type DD.COM and the program loads.

GET ORGANISED

Daily Diary is, as its name suggests, a diary program. However, it also doubles as a combined schedule and organiser program. All of *Daily Diary's* functions are accessible by using keys which perform as follows:

F1 – Help	**F2** – Scan

Cursor left/right – Change between months
Cursor up/down – Change between years
PgUp/PgDn – Change between days
RETURN – Enter diary
ESC – Exit from the program
CTRL & F1 – Switch back to DOS while still keeping *Daily Diary* in memory. When in DOS, type EXIT to return to *Daily Diary*.

REGISTRATION

Users of *Daily Diary* should register by writing to: Pseudonym Software, 161 S. Sunnyslope Ave, Pasadena, CA 91107. See the main file DD.COM for details.■

PC BACK-UP COPY

Be warned that because the disk is a complicated format, some of these instructions could be a bit tricky.

1 If you've only got a floppy drive-based system, format at least one blank disk. Otherwise use your hard drive.

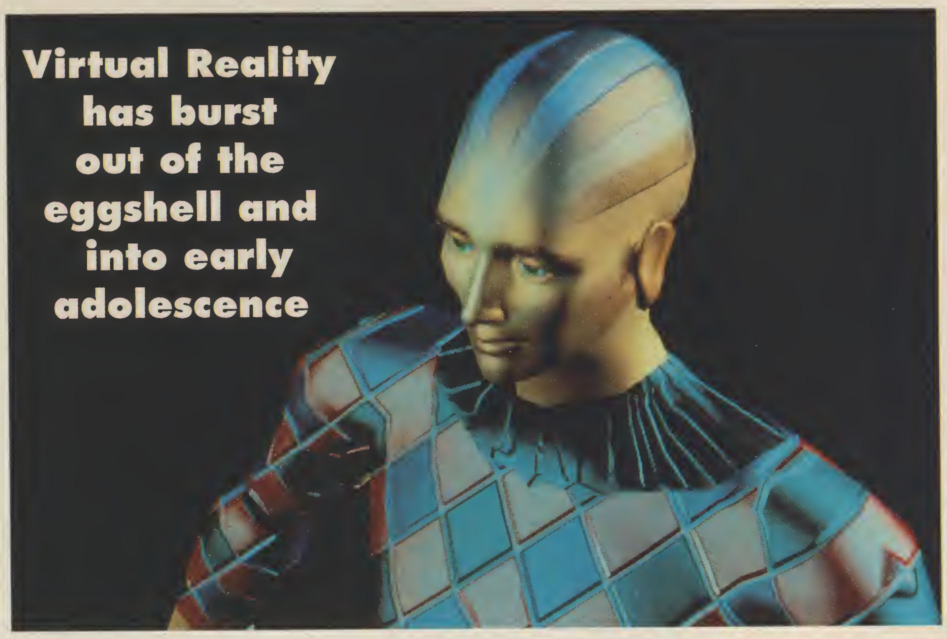
2 Write protect the original *Express* Cover Disk (with the notch open so you can see the hole through the disk).

3 Use the XCOPY command to make the backup. If you have only one floppy drive, load XCOPY from the system disk from drive A:\ with the /S option to copy the files across. So, to copy the files across type: XCOPY A:\PC*.* B: /S.Then it is just a matter of swapping disks in and out of the drive until the Cover Disk is copied. Don't worry if you think you must have two drives – the XCOPY command will treat your single drive as both, or it will copy to the B:\ drive if, in fact, you do have two drives.

4 If you have a hard drive, put the Cover Disk in drive A:\, then type: XCOPY A:\PC*.* C: /S to copy all the subdirectories to the hard drive.

TOMORROW'S REALITIES TODAY

Is your imagination strong enough to perceive how far computer graphics can really go? Watch out – you're in for a shock! Let Ian Grant take you on the journey of your dreams and bring the future forward, fast!


Virtual Reality has burst out of the eggshell and into early adolescence

• On the Electronic Theatre side of VR, Symbolics has created Arturo – a harlequin who pines after his other half, the lovely Lotta Desire

How's about riding a virtual reality surfboard, working out on a VR bike journey, walking around a VR house via a treadmill, feeling the wind and dust particles around a NASA spaceship? Or maybe interaction is for you. Play electronic table tennis with 4,000 other people at the same time, or how about some multimedia theatre watching live actors cavorting on stage with 3D computer animations?

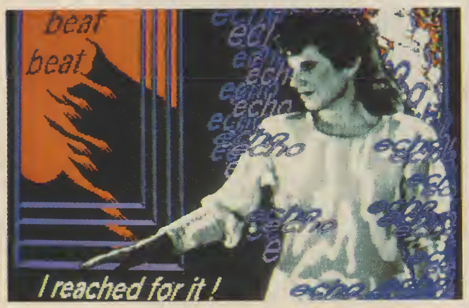
If this sounds like fun to you, a week at Siggraph – the world's leading computer graphics conference and exhibition held in the US each year – is what you need. But before you start thinking it's just one big Digital Disneyland, Siggraph also acts as a serious launchpad for new products and runs important technical panels. You see computer scientists rushing around with the latest algorithms (which we'll see on our computers in about three years time), film directors eager to lure audiences with the latest special effects, men from defence establishments putting on friendly faces but deadly serious underneath, and ashen-faced animators who have spent 24 hours a day for the last year to get a piece in the Electronic Theatre.

IMMERSIVE EXPERIENCES

The jewel in Siggraph's crown was the interactive gallery, called Tomorrow's Realities Today. The title is apt. We've heard so much about VR, but in the UK at least, it has so far delivered more vapourware than substance. But here was something different. Big companies such as Boeing and Northrop and institutions such as NASA and the University of North Carolina demonstrating VR systems with practical uses.

It was obvious, too, that our perception of VR is based too much in the external paraphenalia – goggles and gloves. VR has burst out of the eggshell and into early adolescence. Now there are various types of interaction – passive, passive/interactive, interactive branching and full interactive; now participation can be individual, or in small or large groups. Now besides body, hand, head and eye sensors we have voice recognition, skin conductive response, respiration, blood pressure and EEG feedback devices.

Now we have transducers which can transform ultrasound, electromagnetic fields, atomic particles, radioactivity, X-rays, ultra-violet, radio, intra-red and microwaves into data for a VR experience. Outputs to participants include visual – vector/raster LCD monitors or projectors, head-mounted stereoscopic or direct write to retina, and auditory – 2D static, 3D static or 3D dynamic, along with tactile force feedback, vibration, motion wind and temperature. And on a macro scale, the immersive experience that gloves and goggles provide is only one of several VR experiences.

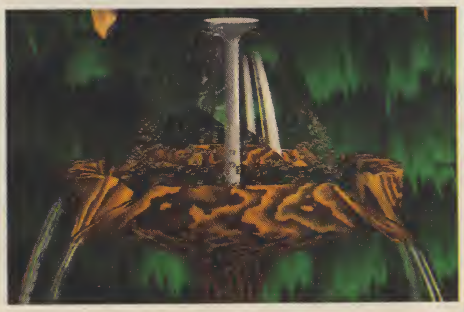


• Using the authoring software *Mandala*, paint packages can be made interactive – this image has been created on an Amiga

LIFE ON A SLICE

Of equal importance is the desktop where viewers look at 3D world through a portal, steering through worlds, and the third person metaphor where users view images of themselves interacting with virtual environments.

Life on a Slice is one such piece. The user's image, which is captured via video camera, interacts on-screen with a virtual image. When the user's image touches an icon it triggers. With each choice of icon a line is added to a digital poem. The idea is developed in Geisha Snall and Phospate Samurai – narratives in which the user goes on a journey and there are many potential endings. Author Beverley Reiser wants the computer to explore poetic and narrative structures. She uses *Mandala* software on the Amiga 2000, a live digitiser, 4-track Tascam PortaStudio with Yamaha digital sequencer, Roland keyboard and Yamaha electric piano. It's weird.



• Chromosones like you've never seen them before! These ones are under going cell division and the image was created on a Vax mainframe

TRAM TRAVEL

Moviemap of Karlsruhe allows you to travel at any speed on the German city's tram lines – backward or forward. You are ten foot away from a big screen and have a broomstick lever to control speed and foot controls for direction. How did they do it? The 100 km of track was filmed by 16mm at 2, 4, 6 and 6 metres per frame, assuring seamless match cuts. A Mac II using HyperCard controls a large projected video image from a Pioneer 8000 videodisc player with a built-in frame buffer eliminating blanking during searches.

The *Mandala* VR system is an important 'third person' system and has been widely used – to date for business presentations, teleconferencing, physiotherapy, medical rehabilitation, handicapped empowerment, training, trade shows, billboards, amusement parks and TV production.

Mandala is easy to use authoring software. Paint packages can be made interactive by event types, for example, giving a ball bounce or sounds. The users image is digitised at up to 30 frames per second and displayed on their own bitplane on the screen. The software monitors the data frame by frame to interact with animations in other planes. Through contact techniques, animations are transformed to different states and simultaneously trigger off events. At Siggraph they used a system where users navigate through virtual corridors to rooms where they participate in training. They use an Amiga 500, real time video digitiser, video display, camera, genlock and MIDI synthesiser.

Imagine painting directly on the screen without a mouse. Well it isn't a dream anymore thanks to Myron Kreuger and *VideoPlace* and *Videodesk*. It consists of a terminal, light table and camera. The image of the users hands is superimposed over the application on the computer. Processors analyse the hands' image and it is used to duplicate mouse functions. You start drawing with up to ten fingers and make several commands simultaneously – mouse manufacturers, please note.

For 3D graphics try the University of North Carolina's 3dm, a 3D VR modelling system. This is for two users with gloves and goggles. A toolbox full of icons with audio assists floats near the user and is accessed by a 6DF mouse (it has another three dimensions when you pick it up). On entry to virtual worlds, users see a cursor, toolbox, magic carpet and checkerboard floor. The carpet represents the extent of the tracking area. So you start constructing models in 3D with the tools and can move them interactively.

The University of North Carolina's VR applications merit a book and have to be seen to be believed. At Siggraph they showed a radiation therapy treatment planning system where you direct cancer killing beams into a digitised patient's body, a system where you fly in and out of atoms and molecules, an architectural walkthrough with a special ceiling and head display cameras which trigger infra-red beams and tell the computer where you are in the room and a VR based exercise bike – the simulation adjusts the pedaling resistance according to the terrain.

NOW FOR THE THEATRICS

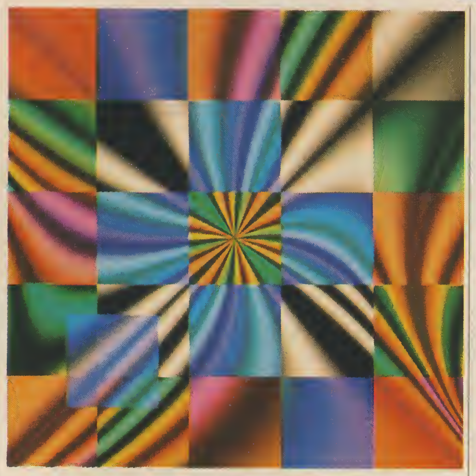
Enough of VR and hypermedia what about the Electronic Theatre. There's a buzz – after all it's not every evening you try and get into *The Guiness Book of Records*. In a world first they are attempting to institute an immediate feedback system. But what are those plastic lollipops on the seats? It turns out that they're made of the most reflective material commercially available – Reflexite. One side is red, the other green. As the audience waggles its sticks, at the back of the hall CCD Video cameras pick up the red and green light and feed it into a PC 486 with VBista and Vision boards, process the data in real time and project it on to the cinema screen. It looks like a computer screen – lots of red and green pixels in rows. You can even find out which is your pixel by a little experimentation.

But red and green can mean something else. The audience is divided into left and right and up comes interactive electronic table tennis. Red is up, green is down and the puck starts flying accompanied by oohs and ahhhs. When the 400 or so audience becomes bored, it's on to the interactive flight simulator – same principle, different results, with some wanting to crash the plane and others to keep it airborne.

Enough of instant interaction and on to multimedia theatre. George Coates Performance Works, is a multimedia ensemble which puts on presentations incorporating live actors and music, back projected slides, 16mm film projection and direct stereoscopic computer projection. The audience wears 3D stereoscopic glasses and sees astounding 3D sets, projected from the 3D computer database. They change frequently from ancient Greek to Twenty First Century.

It's all achieved by a special radical tilt screen, which looks like a flat surface but actually contains space. Lighting techniques focus on the actors, but it doesn't interfere with the projected data. The story is about some players connecting their spinal cords to a multimedia database and how they interact with each other and the data around them. The most memorable scene is an actor dancing with a wire frame model from the latest Mac animation package, *Kinetic Effects*.

The 3D glasses came in useful for the film show where they had to be worn for five pieces. One Journey into the 4th Dimension, comes from a theme park ride in Japan where there are motion seats, holographic sounds, wind and smells. Although without these, being taken into farthest space and under the sea with a camera's eye view of narrow escapes made you dizzy enough without wobbling seats or puking down someone's back to worry about.



• **A Mac IIfx and a Cray YMB were used to produce this image called 'Atonal filing'**

ON ANOTHER THEME

But besides immersion in 3D data, what were other themes? Dirty, cruddy images have become trendy. After all, computer images have traditionally been bright shiny and pristine. Now via special algorithms your computer graphics can be dirty. Turning one object seamlessly into another is also catching on. It's achieved with a Public Domain algorithm and called morphing (remember *Willow* where the turtle becomes a tiger).

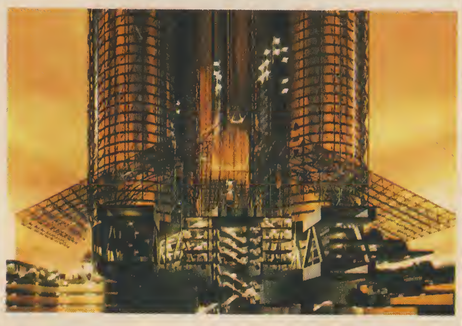
> **Imagine painting directly on the screen without a mouse. Well it isn't a dream any more...**

At Siggraph the same effect is seen in several pieces including an advertisement for Chrysler Cars to the latest effect in *Terminator II*, where an organic metal blob turns into Arnold Schwarzenegger, and back again. Apparently so much money was spent on the effects that they're not saying how it was done, but one inspired guess was that they filmed melting soap and digitised the live action. Special shaders matched the live action lighting. The effects are shudderingly realistic.

Computer graphic faces are doing things they haven't done before. Metal ones turn to water, beautiful ones turn ugly in seconds. The search for photorealism is as strong as ever. Objects are more realistic. After all they shouldn't detract from the narrative.

COMPANIES JOIN IN

Consuming vast amounts of computer power, companies such as Hewlett Packard showed how they could simulate coloured light – at the Ronchamp Chapel. IBM showed how it could realistically simulate falling leaves, Apple, how it could create swirls. Karl Sims showed a new way of making pictures by interactively evolving equations. Two companies used sound mapping to tell a tale of frustration, another in an advertisement for sweets. As an animated tube careers across a piano, the right hand movements of the pianist were converted from MIDI to drive the animated keyboard. And importantly, knowledge 'lost to mankind' was brought to life in sensitively treated high definition television in two pieces; one created from architectural data on Abusimbel, the other natural history data on prehistoric animals.



• **BIB 200 atrium – 200 points light sources and 41,000 polygons modelled by Citia and rendered with *Reals* raytracing software**

And you don't have to have the latest kit to make it into the world's best computer film show. James Duesing used a PC running Cubicomp to tell a narrative about 21st century citizens visiting polluted sites to reminisce about their heritage.

And you don't need to spend a fortune on big systems either. Eku Wand transformed the poems of Ernst Jandi via a talking screen divided into a grid of 20 pairs of lips speaking at irregular times using an Amiga 2000, *DeLuxe Paint II* and a digitiser. It's effective. And a note for budding animators. Although Pixar's entry was a cut down version of Luxo Jnr, illustrating via 'big lamp' and 'little lamp' the difference between light and heavy balls, the timing was perfect, the narrative simple, and despite all the MIPS and Megaflops of previous pieces, still managed to raise the biggest cheer.

SUPERCOMPUTERS ONLY?

But isn't all this a bit esoteric? Something for the realms of the supercomputer boys and girls, or at least those with a Silicon Graphic Power Series workstation – not for the likes of you and me running XTs and Pluses? No. Computer power virtually doubles every 18 months and software inevitably becomes more sophisticated.

On the Siggraph exhibition floor the trend was obvious – the latest Silicon Graphics machine was calling itself a PC – the Indigo, going for $6,500. It runs much of the software – from *Alias, Soft Image, TDI* and *Wavefront* that went into creating many of the above. Although when you get it home, don't be surprised it's only an 8-bit screen and hasn't got a hard disk.

Other hot products – most new workstations had graphics and processing systems coupled tighter together and most had live video windows. The facility was shown off in a live videoconferencing demo from DEC, RasterOps and Brooktree via three video cameras perched on workstations – with results displayed real time in windows.

Hyperspeed is a board giving 64-bit and personal supercomputer on the PC. Tektronix' new Phaser III Pxi thermal wax printers can output on to plain paper. Autodesk released a Pro version of *Animator* – the resolution has improved and anti-aliasing is included. Sun and IBM demonstrated head trackers, showing VR is serious business – the latter also showed stereo glasses to access 3D models, as did ModaCad. Apple's *QuickTime* stood out as an important breakthrough – further narrowing the gap between TV and print and possibly heralding a desktop video revolution much like DTP in the eighties. They had some good interactive multimedia newpaper demos. Windows got its first 3D product in Upfront from Alias, an example of sophisticated UNIX software migrating down.

ON THE SMALL SIDE

And what about VR on smaller computers? VPL is making VR peripherals for micros. Autodesk is making noises about a big launch for PCs and with a substantial user base it could take off fast, Sense 8 has *World ToolKit* software which runs on a PC. Virtus has a good VR through the portal system which runs on a Mac. And compression technology is coming on leaps and bounds making video editing and playback from disks, and therefore multimedia, (now coined unimedia) a reality.

So why is it that when you visit a corporate site, m there's row upon row of grey/brown terminals emanating green ASCI text when users could have so much more fun, connectivity, interactivity and colour in their work? That, surely, is the task of the computer graphics fraternity in the next few years, besides making pretty pictures we say wow to for two seconds, until next year come round again. ■

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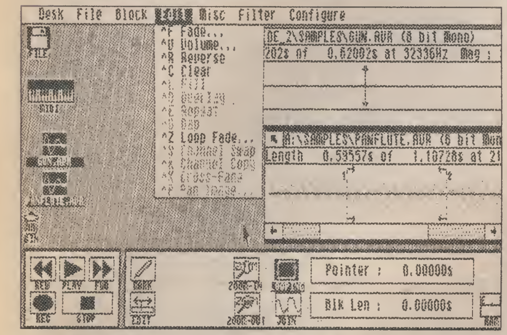
ON A SCREEN NEAR YOU...

The latest 16-bit software and hardware reviewed in bite-sized chunks

PRODUCT: JW Stereo Replay
COMPATIBILITY: ST range
FROM: Microdeal
CONTACT: 0726 68020



• *Stereo Replay* **is easy to use (far easier than its older counterparts) and is versatile**

Tired of monophonic samples on your ST? Can't find any samplers that use your STE's stereo DMA chip? Your search is over. Microdeal's new *Stereo Replay* can give you sound in both ears, regardless of your setup.

The cartridge and software-based system gives 8-bit resolution. Quality is improved by a Chebyshev anti-aliasing filter which, combined with four A-D and D-A convertors, gives a bandwidth of 50Hz to 12 KHz.

Stereo Replay can sample at any frequency between 5KHz and 48KHz. At 22KHz (8-bit, mono), you can squeeze in 10 seconds of sound on a 520ST, 30 seconds on a 1040ST and 160 seconds on a Mega 4. You can record and play back in stereo through the four connectors fitted to the cartridge. Or you can play back through your monitor's or TV's speaker in mono.

Block functions include fade, volume-shift, reverse, overlay, repeat and loop and cross-fades. Other effects enable you to echo sounds and create reverb, flanging and phasing. Four filters can change the frequency responses: lo pass, notch, hi pass and band pass. You can set any cut off frequency for the low and high pass filters by entering the new figure into a dialogue box.

Also included in the package is *Stereo Beat*, a MIDI drum program which uses samples from the editor and can fit up to 15 in your ST at once. You write in the usual pattern and song structure and you can store 50 patterns and ten complete songs.

Whether you use it for private performances or public demonstrations, games sound effects or demo-ditties, Stereo Replay is the business ■

HOW DOES IT RATE?

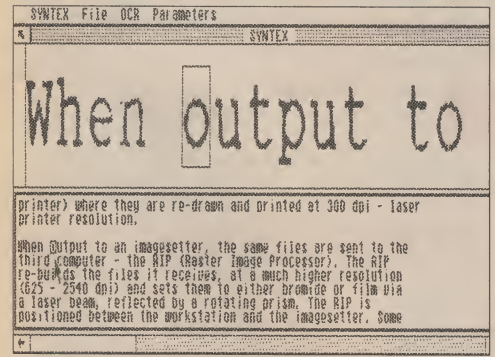
FOR
- ▲ Simple displays make sampling easy
- ▲ Perfect control of looping/joining

AGAINST
- ▼ Cheap and tacky manual
- ▼ Complex effects take a long time

COST: £89.95 **VALUE:** Good

COMPETITION: ST Replay, Mastersound 2

PRODUCT: Syntex
COMPATIBILITY: ST range
FROM: Signa Publishing
CONTACT: 0252 370066



printer) where they are re-drawn and printed at 300 dpi - laser
printer resolution.

When output to an imagesetter, the same files are sent to the
third computer - the RIP (Raster Image Processor). The RIP
re-builds the files it receives, at a much higher resolution
(625 - 2540 dpi) and sets them to either bromide or film via
a laser beam, reflected by a rotating prism. The RIP is
positioned between the workstation and the imagesetter. Some

• **There's no need to copy type those faxes with** ***Syntex*** **– it does the job for you with perfection**

Why bother to painstakingly re-type documents into your ST or TT when you can use the latest in Optical Character Recognition (OCR)? *Syntex* enables you scan text and then convert the image into an ASCII file in a form readable by all word processors. All you need is your own scanner.

The program uses an intelligent driver system to eliminate the need to run a separate program to scan the page. You can scan pages at any resolution your scanner can handle, be it a flatbed, hand-held or roller type. *Syntex* runs as an accessory or a program and has two display windows – one for the scanned image, and one for the resulting ASCII text. You simply define an area and tell *Syntex* to translate. You can translate columns (which don't run across a page) in the correct reading order and avoid any pictures in the document.

Advanced controls enable you to alter the speed and accuracy of the text recognition process. With the contouring feature set, *Syntex* checks all serifs on the characters before deciding on the translation. *Syntex* can even calculate if a scan has proportionally spaced type and then decipher it correctly. Once the translation is complete, a fail-safe search and replace function enables you to tweak any confused translations.

The process is as simple to carry out as it is to read this review. The menu-driven functions are self-explanatory and the translation is quick and usually perfect. Only the worst-reproduced documents are likely to give you trouble, and even they can be fixed.

Unlike many business-orientated programs, *Syntex* does not require massive amounts of memory. You can produce perfect results on all STs and TTs, using monochrome and colour displays. ■

PERFECTION AT LAST?

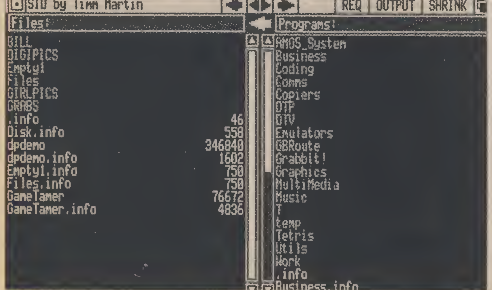
FOR
- ▲ Simple to operate
- ▲ Precise reproduction of text on page
- ▲ Drives your scanner directly

AGAINST
- ▼ None!

COST: £146.88 **VALUE:** Best buy

COMPETITION: None known

PRODUCT: Fred Fish CD-ROM
COMPATIBILITY: Amiga
FROM: HB Marketing
CONTACT: 0753 686000



```
BILL                          AMOS_System
DIGIPICS                      Business
Empty1                        Coding
Files                         Comms
GIRLPICS                      Copiers
GRABS                         DTP
.info                   46    DTV
Disk.info              558    Emulators
dpdemo              346840    GBRoute
dpdemo.info           1602    Grabbit!
Empty1.info            750    Graphics
Files.info             750    MultiMedia
GameTamer            76672    Music
GameTamer.info        4836    T
                              temp
                              Tetris
                              Utils
                              Work
                              .info
                              Business.info
```

• **Timm Martin's SID is only one of thousands of fine PD programs on the** ***Fred Fish Collection***

If you're the proud owner of either a Xetec CD-ROM drive for the Amiga or even a CDTV, then HyperMedia Concepts' *Fred Fish Collection* on CD-ROM may be for you. It contains the complete collection of those well known PD disks from *Fred Fish*.

The *Fish collection* of PD disks is regarded as the premier Amiga PD library with many big name programmers contributing their wares to Fred's library.

HyperMedia Concepts' CD-ROM contains the first 480 disks within the library, although this is by no means the complete collection – already the library has grown to more than 500 disks since the release of this CD-ROM drive. To keep your Fish Collection current, HyperMedia Concepts has set up an offer where you can subscribe to it directly for just US$80, not including the cost of the first CD-ROM. Every time 100 disks are added to the library, you are then automatically sent an updated CD-ROM containing the extra disks.

The programs on offer vary greatly, but you'll find small utilities, applications, demos and even games. Some are of commercial quality – Timm Martin's SID, for example. Several versions of the same program may be held on the CD-ROM, so it's worth checking with the PD program *Aquarium* (also on the disk!) to see what is the latest version. If you own a CD-ROM drive, then you'd be a fool not to splashout on this disk. It contains a vast amount of software that, if bought on floppy disk, would set you back almost £1,500!

PD libraries may also want to check it out as it gives a quick, reliable and trouble free way of holding the Fish Collection. ■

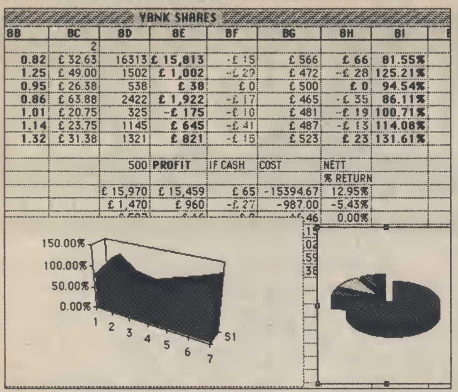
SHOULD YOU SPLASH OUT?

FOR
- ▲ £1,500 worth of software for £60!
- ▲ Provides instant access to the disks

AGAINST
- ▼ You'll need a CD-ROM drive and a keyboard (for CDTV owners)

COST: £59.95 **VALUE:** Excellent

COMPETITION: None as yet



YANK SHARES

BB	BC	BD	BE	BF	BG	BH	BI
	2						
0.82	£ 32.63	16313	£ 15,813	-£ 15	£ 566	£ 66	81.55%
1.25	£ 49.00	1502	£ 1,002	-£ 29	£ 472	-£ 28	125.21%
0.95	£ 26.38	538	£ 38	£ 0	£ 500	£ 0	94.54%
0.86	£ 63.88	2422	£ 1,922	-£ 17	£ 465	-£ 35	86.11%
1.01	£ 20.75	325	-£ 175	-£ 10	£ 481	-£ 19	100.71%
1.14	£ 23.75	1145	£ 645	-£ 41	£ 487	-£ 13	114.08%
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		[illegible]	[illegible]	[illegible]	[illegible]46	0.00%	

• *Let Excel 3 do the hard work for you – endless rows of figures can be explained at the touch of a button*

PRODUCT: Excel 3
COMPATIBILITY: PC, Mac
FROM: Microsoft
CONTACT: 0734 500741

After word processors, spreadsheets are arguably the second most popular pieces of software. The trouble is, though, only the most basic are easy to use. Once you start throwing in a whole bunch of options like sophisticated database functions, 3D graphics, and DTP features such as text and font control you can run into problems.

Excel 3 is the latest version of the spreadsheet something like 95 per cent of Mac owners use. And with it comes a Mac-style user-friendliness that consigns the most difficult functions to pull-down menus and on-screen buttons. While the program can be configured to use only 2Mb of hard disk space, to draw on all its resident features – tutorials, sample files and add-ins – requires a massive 5Mb of space. But *Excel 3* is worth the space if daily calculation is a regular need of yours.

With its built-in macro language and outlining functions, it easy to let the PC take over from the initial manual input of figures to draw some conclusions from the arrays of data at hand. Thus, for example with the Goal Seeker function you can nominate a cell which you wish to represent a target value – say year-end profits – and define which cells you wish to automatically change to realise that goal.

More sophisticated than this is The Solver, which offers the same function, but allows you to 'constrain' a whole series of contributing cells so there values will only change by set degrees.

Whether *Excel 3* manages to make inroads into the massive domination of Lotus *1-2-3* in the PC spreadsheet market remains to be seen. With Lotus' new Windows version imminent it would appear that task will be a difficult one. In the meantime *Excel 3* has the edge.

All in all it is the most easy to use featured packed spreadsheet you could wish for. ■

A GOOD BUY?

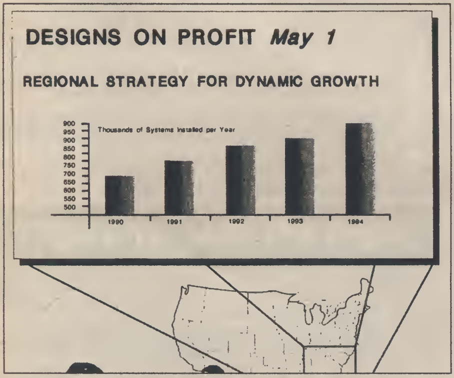
FOR
- ▲ **Full featured**
- ▲ **Easy to use**
- ▲ **Powerful solving functions**

AGAINST
- ▼ **Needs lots of hard disk space**
- ▼ **Best suited to a 286 PC and above**

COST: £465 VALUE: Good

COMPETITION: Lotus *1-2-3* , Informix *Wingz*

PRODUCT: Avagio 2
COMPATIBILITY: PC
FROM: LTS Ltd
CONTACT: 0386 792617



DESIGNS ON PROFIT *May 1*

REGIONAL STRATEGY FOR DYNAMIC GROWTH

•*Your graphs need no longer look dull with Avagio – it enables you to mingle several graphics in one picture*

Version 2.0 of the *Avagio* desktop publishing package requires a PC with a 286 or 386 processor – it won't run on an XT, although according to the manufacturer a cut-down version is under development. Your machine must have at least 1Mb of memory, but 2Mb is preferable. You also need a hard disk – the program comes as a compressed archive on three 5.25-inch or four 3.5-inch disks.

The program doesn't work under Windows – instead, it uses its own windowing system. It supports a wide range of printers, including all the standards – so there should be no problems interfacing to whatever you have.

Avagio comes with 12 fonts in its own font format, and a utility is supplied which should convert downloadable soft fonts from vendors such as *Bitstream* and *Digifonts*. More fonts in *Avagio* format are also available. PCX and TIFF graphics – mono and colour – can be imported into the program, and there is also a separate utility which will attempt to convert PostScript and EPS graphics to a format readable by *Avagio*.

Objects and text frames can be rotated in one degree increments, although sadly imported graphics can't – something which really should be remedied before the next release. Also, up to 250 text characters can be flown around the edges of any object created in the program – circles, curved lines, polygons and so on.

Essentially, *Avagio* is a lowish-end DTP package which attempts – and sometimes succeeds – to perform many high-end tasks. One such example is the 'Mingle' tool, which allows you to define how overlapping objects interact – whether things should be transparent, opaque and so on. If you want a relatively cheap DTP package, this one is worth a look. ■

HOW DOES IT RATE?

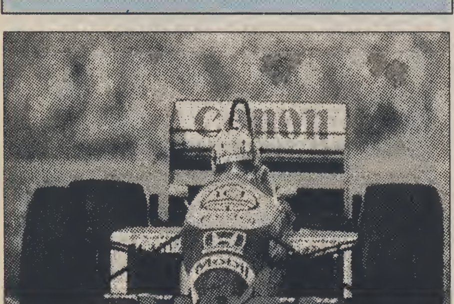
FOR
- ▲ **Supports a wide range of printers**
- ▲ **Can use colour & PostScript graphics**

AGAINST
- ▼ **Uses a proprietory font format**
- ▼ **Doesn't run under Windows**

COST: £142.94. Upgrade from version 1 – £79.95 VALUE: Average

COMPETITION: Numerous – DTP packages abound for the PC

PRODUCT: Video Centre Plus
COMPATIBILITY: Amiga
FROM: G2 Systems
CONTACT: 0252 737151



• Overlay graphics on to your home videos with the Video Centre Plus from G2 Systems

Desktop Video on the Amiga is rapidly becoming big business, with both US and UK companies producing peripherals which put the Amiga in line with video kit costing tens of thousands of pounds.

The heart of the Amiga desktop video system is the genlock, a sophisticated device that combines the video output from the Amiga with that of an external video source. One of the most powerful genlocks available is the recently released Video Centre Plus (also known as the VC2), an upgraded version of G2 Systems' successful VideoCentre (VC1).

The VC2 is capable of coding, genlocking and keying the Amiga video signals with both composite and S-VHS video decks and camcorders. It consists of a long console that sits on your desk next to your Amiga. Externally it has two faders (one for cross fading and another for fading to black), a switch which allows you to set the signal type (Just Amiga, Just video, combination) and a set of wipe controls which are unique to the VC2 (the VC1 doesn't have them).

The wipe controls are controlled via a selector knob and a joystick which allows you to position the effect anywhere on the screen. They allow the background video or Amiga graphics to be viewed through one of 20 variable sized (which is controlled via a slider) and shaped patterns including circles, rectangles and diagonals.

Unlike most genlocks, the VC2 allows you to control the keycolour (that is, the colour to be replaced with the external video source). Most genlocks just use Amiga colour 0, but the VC2 allows you to change this via a set of dip switches on the back of the unit.

The VC2 is a powerful and very capable genlocking system that, whilst it cannot produce broadcast quality (you'll need G2's VC3 for this), it is suitable for most semi-professional video applications. ■

IS IT WORTH BUYING?

FOR
- ▲ **Powerful wipes and fades built in**
- ▲ **Supports S-VHS as standard**
- ▲ **Key colour can be altered with ease**

AGAINST
- ▼ **Costs more than three times the price of an Amiga 500**

COST: £1,170 VALUE: Good

COMPETITION: Rendale Super-VHSA8802

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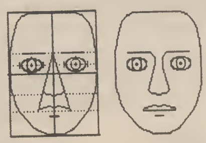

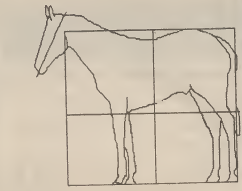

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EXPRESS MAIL

This week Haydn homes in on your views on X-rated PD, CDTV versus CD-ROM – the price battle, a cracking idea for program protection and how the 8-bits beat the 16-bits at graphics demos

☎ CDTV puzzle

I noticed something a while ago which hasn't seemed to be picked up by anybody else.

The Commodore CDTV costs £599. A keyboard and disk drive will be optional items, therefore adding to the costs.

I see reported in your *great* mag (which I read every week) that the A690 CD-ROM drive for the A500 will cost £299.

If you add to this the cost of a new A500 (£350 approx) and a half Meg board (under £30), it will total about £680.

This will only be £80 more than the CDTV, but you will benefit with the inclusion of a keyboard a disk drive. I know which one I would choose.

I get the feeling that the A690 will cost slightly more than this or that it will be delayed long enough for the CDTV to get a proper foothold in the market.

What do you reckon?

Mike Turner, Edmonton, London

I RECKON you could be right there Mike, but have you considered this? What better way is there to ensure the success of CDTV than bringing out an Amiga add-on as soon as possible so that user demand for software mushrooms, more software titles are made available by profit-conscious developers and, as such, CDTV is more appealing to the high street shopper – the punter for whom it is intended. Meanwhile, I know which I'd rather have too – an A690 drive. Can't wait – hopefully it won't be tto long.

I just hope Commodore can deliver at the quoted price because it seems to me that interactive CD of some sort is the way forward and £299 looks like an attractive price.

☎ Porn again

Thanks for publishing extracts from my last letter about PD and pornography.

This weeks issue of *NCE* (iss 147) has a letter from a Stuart Woodhead who believes that we at LAPD.are hypocrits. He bases his comments on the fact that my letter, as published, condemns PD libraries which distribute porn, whilst we have an X-Rated section in our catalogue.

My original letter to you clearly stated that we did not consider ourselves to be angels of any kind and I mentioned our X-Rated section quite openly, the necessary editing of mail that you must do before printing letters meant that all my references to our X-section were not mentioned, thus leading people like Woodhead to believe we have double standards.

Would it be possible for you to print something which makes it clear that I did not hide the fact of the existence of our X-section and also makes it clear the difference between a selection of software that would not be suitable for the younger user and pornography?

If using the Obscene Publications Act as a guide it is clear that the software within our X-section would not contravene any section of that act, whereas many of the programs within the X-sections of less reputable libraries would lead to charges being laid if only the relevant police forces were aware of their availability.

Leigh Caudwell. (L.A.P.D.)

'BREASTS AND BOTTOMS', as 'Medium' Jules Tolley, our resident chief-sub, informs me, are OK as long as you don't get obsessive about them. What she means by this, among other things, is that they are not sufficient reason to buy the Sun everyday.

Whether anyone will now send off money to your PD library knowing it has a X-rated section would appear to fall into the same category. Unfortunately, I bet you get loads of requests.

Sorry, but I think 'X-rated' pics are all pretty cheap really – especially digitised ones - but then I'm married to the most beautiful woman in the world and therefore fully entitled to be completely obsessed, blind to frustration and oblivious to the need for Page 3.

🖂 XL-ence

I was intrigued by the letter from R Kilpatrick of Kelso (*NCE* 146) in his description of, and delight with, his Atari 800XL.

My letter recently made the same comments and likewise was disbelieved and also shot down.

Perhaps the answer is that the 16-bits are not yet fully exploited and the Atari 8-bits have been pushed far beyond the limits set for them, during the past year or so. But there is no doubt that nobody anywhere on any 16-bit machine can show me demos or screens to match the ones now being produced on the Atari 8-bits.

However, I would advise Richard that the Atari 130XE with its 128K is even better, with some of the page flipping demos, that use all the extra memory banks.

I do not decry any 16-bit owner, nor any 16-bit machine, but as I said in my recent letter, why buy a 16-bit simply because it's bigger and faster?

Ron James.Ribbleton, Preston.

PRESUMABLY because it has a better and larger software base. I'm still not convinced about the demos, though. But since we don't have any XLs here – how about sending me a video of what you're talking about? I promise to return it. Who knows I might actually review it!

🖂 Cracker

ONE OF HAYDN'S £5 WINNERS

Regarding the new forms of copy protection; I believe that I have thought of a new and original method, although it could quite possibly have been thought up before and may be in use.

My method involves the program detecting whether the disk which the program is on is an original or a copy.

If the disk is an original then the program on it runs as normal, whereas if the disk is a copy then the program would go into demo mode. Or maybe, options in menus could be made inaccessible, disabling the save option, perhaps, so that no data entered into a copied program could ever be used again once the computer had been turned off.

The same method could be applied to games, stopping the player from going further than a

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I *most* like ....
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And I *least* like ....
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LETTERS

ON THE COUCH

This week the leather couch creaks under the weight of BILL STEELE of BROOKLYN, NEW YORK as our resident psychiatrist, Dr Clare Anthony, invites him to explore the inner realms of his psyche. All Bill had to to do was send in the name of the machine he owned, his favourite software and name the machine he most desired. He then put them all in an air-mail envelope and sent them to Leather Couch Clare, *NCE*, 30 Monmouth Street, Bath BA1 2BW. Just think, you, yes YOU, could be next!

OK Bill, just bite on this bagel and let's begin buddy...

- MACHINE OWNED: Gameboy
- FAVE SOFTWARE: *Super Mario Bros*
- DESIRED MACHINE: Super Famicom

Oh Bill, just what would your father think of this? An All-American boy with a fixation for Japanese world domination?

I get lots of letters from Gameboy owners and I can tell you one thing – they're all heading for what we Freudians call Compact Introversion. This is a state wherein a person transposes their entire conscious faculties on to extremely small objects. It's a very worrying condition. It also makes some people lots of cash.

The Japanese were very quick to pick up on this trait in Western culture – so much so that they turned their entire country into a factory for producing small objects. They even went out of their way to be small themselves – and thus appear more attractive and thereby less of a threat. In fact, the Japanese peoples *are* the *Super Mario Brothers*. All sixty million of them.

The point being, Bill, is that they want you to be a brother too. Yes, I'm afraid you're turning Japanese on an almost daily basis and this is very worrying. Very soon your clothes will no longer fit you and you'll spend all your time making videos of even the most insignificant events. Like playing *Super Mario Brothers*. Soon you'll divide your time between playing the game and watching videos of yourself playing the game. You poor, pathetic thing.

PROGNOSIS: Although the Super Famicom is bigger than a Gameboy this really doesn't solve the problem. What you should do is strap a pocket TV to each eye, wear headphones and listen to white noise. You will shortly realise that bumping into lamposts is far more rewarding than turning Japanese and passers by won't laugh at you anymore.

pre-determined point in the game, as happens in game demos on cover disks.

My protection method would be successful, I believe, as rather than pirates getting a perfect copy of the program that they have copied, they will be getting a demo version, which would probably be circulated by other pirates, and get a wide audience who could judge whether or not the program is worth buying or not.

The beauty of my method is a "try-before-you-buy" scheme, which would probably increase the quality of software, as no-one would buy a program if the demo of it was rubbish.

Chris Moore, Worthing, Sussex.

I LIKE THE idea about disabled menus – this is rather like the idea put forward in these pages a while ago about the try-before-you-buy disks. I also like the idea about an illegal game copy turning into a demo, but I don't know how foolproof either of these methods would be.

I think much more stringent methods need to be adopted, because once it's possible to run a program it's easier to disassemble it.

What is required is a means by which as soon as an illegal copy is run, it completely disables your machine. Still, keep those copy protection ideas coming in readers – and win some money. Just send them to 'Crack This', *NCE*, 30, MonmouthSt, Bath BA1 2BW

Doubles

ONE OF HAYDN'S WINNERS £5

I have conclusive proof of how badly the recession has hit the computer industry, some of the industries' biggest companies are moonlighting!

Whilst on holiday in Europe I found SAMCO sunglasses; Lotus cotton wool; an Arnor till; Med toothpaste; and SAM electronics watches!

Is there something we should know? What will we see next? Star telescopes?, Spectrum paint? or even, heaven forbid, Amiga condoms?

I think I have set the ball rolling for the readers to find other examples of company moonlighting! I'd like to see who could find the funniest doubles.

Simon Richards Twickenham

A NEAT IDEA and one which we can start running straight away. Just send in those strange double vision sightings to: 'I'm sure I'm in a parallel universe chaps' *NCE*, 30,Monmouth St, Bath, Wyoming.

NeXT PCs

As I was looking at the letters page of *Express* 138 recently, I noticed

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that there was a letter questioning why the NeXT computers have no facility to read PC or Mac disks. In answer to this letter you agreed that the NeXT should feature such capabilities. It already does!!

We have had a NeXT since about a week before your review and I have had no problems importing ASC11 text files over from our PC.

Using the 'BuildDOS' command on the NeXT you can format a disk to be used for DOS on normal PC's. Likewise, DOS formatted disks can be both read and written on by the NeXT. This enables 'Data transfer between the NeXT and DOS platforms to become completely transparent' (a quote from one of the manuals).

On the Mac compatibility side, I believe an external floppy drive that can read Mac Disks in a similar way is already available.

I hope this information can be helpful to some people in choosing one of these machines as I have found the NeXT is a really good machine in most other aspects.

M. Robinson, London

THANKS for that qualification M – like you I really rate the NeXT – I just hope sufficient quality software keeps coming out for it.

Write Now

Write and tell Haydn Fitz-Williams what you think! Reach him at: Express Mail, 30 Monmouth Street, Bath BA1 2BW. Sorry, no personal replies, even with an SAE and remember, only SOME letters win a fiver

☎ On-line mail

Own a modem? Then squirt us a letter. *Express* has its own area on Aspects bulletin board (061 792 0260) where you can leave mail and upload/ download files.

We also have our own conference on CIX. Give this on-line service a ring on 081-390 1244 and talk to us direct! You can also leave E-mail for us on Prestel and Micronet @ 011112623, or on Telecom Gold @84:txt152

To Clare

Clare – sorry to hear about the perv, but it doesn't take a freudian to note that all men are!

Clare, I have noticed the use of similar word structures in your prognosis etc., this leads me to believe that you are not using the right info to formulate your otherwise brilliant paragraphs.

So here's how to change that subconscious fluidity point.

Read *Robot Dreams* by Isaac Asimov, *The Emperor's New Mind* by Roger Penrose (anything on Fractal's might be a good Idea).

Watch *Dune, Manhunter, T2 - Dreamscape* and *Firestarter*

Listen to Lori Anderson and any New Wave music

Places to be: Image Processing '91 and a lecture with computing with light?

In other words, get wicked sister!

Napoleon Complex

OVER TO CLARE for this one.

A doctor writes: People often write to me and suggest ways in which I can improve my style.

I always say this by way of reply: 'Thank you, and now I must get be getting back to planet Earth'.

Pedant's Point

(strictly not a point but a subset of two-dimensional space)

Frank J Hollis, in Pedant's point has got it wrong. (Ha ha ha ha ha.)

The first electron in an atom of neon may take only 20 eV to remove (and in fact it actually takes 21.56821896eV, so you're wrong anyway, and no-one uses eVs nowadays, it's all in Joules, so you're wrong again), but a quick look through my chemistry databook tells me that the last takes 1362.23876eV.

The last electron from Argon (also an inert gas), takes a fantastic 4426.366497eV. Also, when you realise that most thing in chemistry are calculated in moles (no, not those little things that go round in tunnels), just try to imagine 6*10 23 (that's 602,204,500,000,000,000,000) fleas. Quite a few, don't you think?

All in all, anyone who can get a neon 10+ ion is very clever, because quite often, before you've managed to remove the second electron, another one's become attracted to the +ve ion, and has attached itself, and they must have expended much more energy than someone just pulling a joystick off a table. If you really wanted a strong force for a simile, however, why not use 'the strong force' which binds neutrons in the nucleus. We are talking seriously strong here....

I hope this has clarified things!

Geoff Winkless, Leicester.

YES BUT eight decimal places can only ever be an approximation and what we're after here is precise accuracy. If you'd be so kind as to send a proper calculation, something pertaining to an infinite list of decimals, I'll be only too happy to serialise it over the next 10^n *Express*'s, or until infinity equals 0 again – whichever is the soonest.

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MACINTOSH

- **What'll be new at the *MacUser* Show?**
- **Comms software for Classic owners**
- **IBM fares badly at MacHack conference**

RUMOURS...

Initial press releases for the MacUser Show, to be held in London in November, are beginning to filter through already. Principal Distribution tells us that it will have the largest stand at this year's show (what about *MacUser* magazine's?), and will be demonstrating, "many of the latest Macintosh products and technologies" – whatever they may be.

Specifically, the company has an exclusive distribution deal for *FrameMaker 3.0*, the high-end page make-up package which runs on UNIX workstations and the NeXT machine as well as the Macintosh. The company also has sole distribution rights for Adobe products, so expect to see *Illustrator 3* and the new *Photoshop 2.0* on the stand.

There will also be (and I quote), "The Hublet, a 10BaseT splitter that turns one 10BaseT port into four, simply by plugging the Hublet into an RJ45 jack." It's made by Shiva; any suggestions as to what on earth it could possibly be should be sent to me on a postcard...

Mercury Communications (the phone people) is to buy £20 million-worth of Macs in an effort to upgrade its equipment. Apparently the Mac will become the standard desktop computer in the company, replacing IBM PCs. They will be connected to DEC and IBM mainframes via Ethernet. This is Apple UK's largest-ever single company deal. Just thought you'd like to know...

Apple's announcement that it will be incorporating a version of Adobe Type Manager (ATM) into a future version of System 7 has led to some speculation that when this happens, TrueType will become somewhat superfluous.

The word is that Apple realised TrueType would never really rival PostScript too much in the desktop publishing arena, so the company decided to have the best of both worlds and incorporate both. It will be interesting to see whether the font companies such as Bitstream, Monotype and Linotype continue to support TrueType when the new System software finally appears, or whether the new font format will quietly fade into the background...

FILE COMPRESSION

Aladdin Systems, the company responsible for the widely-used *StuffIt* file compression program, has just announced something called *StuffIt SpaceMaker*, a compression program designed to free up space on a hard disk in a user-transparent manner.

According to the company, the software works by automatically

POSTCARD FROM AMERICA

No one came down with a hacking cough at MacHack conference. This is where you can catch the act of some of the self-proclaimed best and brightest Macintosh programmers.

The conference took place with the backdrop of the Apple/IBM talks in Armonk, New York. Apple white-collars were pressed hard for details, but the infamous Bash Apple session was fairly tame. The moderator of that session traditionally carries a baseball bat to protect the Apple Developer Technical Services representatives from the mad dog technoids! This time the Apple programmers came armed with Nerf crossbows, and plenty of foam-rubber ammo.

Some of the silicon brain-trust were not happy with the proposed agreement. The prospect of IBM's RS/6000 RISC processor as the heart of future Macs did not make for smiling faces. They hoped that the CPUs would be chosen solely on technological merits. Kirk Loevner, Director of Apple's Developer Group, was hissed and booed when he said that business concerns were of equal importance to technology in the Apple/IBM talks.

The MacHack contest and award banquet concluded the week's festivities. Little programs that are brought to the conference, or written entirely there, are awarded acclaim and goofball prizes. For the first time a couple of Microsoft code-masters came to the conference. There's plenty of animosity in the small developer community to the software giant, so the universal brother/sister-hood of all programmers was put to the test. Everyone was pleased by the warm reception offered them.

They teamed up with some Apple people, and wrote a detente hack, *AliasThis!*, for the contest. Drop something on *AliasThis!*, and a System 7 alias appears automatically in your Apple Menu. The description said, "Forget backroom meetings in Armonk. What really counts is late-night coding in hotel rooms in Ann Arbor."

David Morgenstern

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compressing (reducing in size) any file or folder with a preset keyword attached to its name. The compression speed is apparently comparable to that of dedicated hardware-based NuBus cards, and most files are cut in size by 50 per cent – some picture files may reduce by as much as 98 per cent, although of course that depends on the image.

The program also has something called 'Idle-time compression', where any file which has not been modified for a specified period of time will be compressed in the background while the Mac is not doing anything else.

According to Aladdin, the program has been designed to work with virus detection programs like SAM and hard disk back-up software.

This sounds like a great idea for those who find a 20Mb – or even 40Mb hard disk just too small to keep all those files and applications on. More news about price and availability when we get it, but the US recommended price is $59.95 – so expect it to be about £40-£50 over here.

NEW COMMS PACKAGE

AM Technology has introduced a budget version of the popular Vicom comms package for the low-cost Macs.

Vicom is especially favoured by those who don't know (or don't want to know) too much about comms – it is extremely user-friendly, and can easily be set up so that bulletin boards can be accessed simply by clicking on an icon; the package does the rest.

MAC FACT

In the 'just thought you'd like to know' category, *MacWorld US* this month reports that there are 165,000 Macs in the United Kingdom, representing a 3.8 per cent share of the personal computer market in this country. In the States, on the other hand, there are about three million of the little devils, which is a 20 per cent share of the personal computer market. Methinks they define 'personal computer' a little differently to the rest of us...

Vicom also supports Viewdata systems like Prestel, which most other comms packages don't. (Although the shareware *DA Pretzel*, available from most bulletin boards and PD libraries, will do the job if you don't have Vicom).

The package is restricted in that it will only work with modems which support the V.22bis standard or below – that's 2,400 baud to the rest of us – although with MNP5 this still produces an effective throughput of 4,800 baud.

Classicom will cost £85 plus VAT, and for a limited period this price includes a free modem cable. Purchasers of Classicom will be able to trade up to members of the main Vicom range at a reduced rate.

If you need a comms package, and you're not happy with a shareware one such as ZTerm, give AM Technology a ring on 0202 293233.

Ian Wrigley

CPC

- **Is Amstrad's games PC a threat to the CPC?**
- **Is *Plotting* worth puzzling over?**
- **CPC/PCW file transferring made easy(ish)**

NEW 16-BIT GAMES MACHINE

Amstrad is to launch a new games-oriented machine called the PC5286, which will be bundled with *Prince of Persia*, *F-15* and *Links*. At last, could this be the 16-bit Amstrad everyone's been waiting for?

Forget it. In fact, the new machine is reckoned to be a pretty bog-standard PC, albeit running on a 286 chip and with VGA graphics and a 40Mb hard disk. And it won't be shaking up the ST and Amiga, either, not with a price tag of just over £1,000...

Does all this mean Amstrad is turning to the PC market for its games involvement? Will the company ditch the 8-bit Plus?

After the PC200 farago (remember that?), Amstrad should tread carefully. Looking closely at the (rumoured) specs, what's coming up is – again – a low-cost, not-very-expandable PC aimed at games players as well as serious users. Hmm...

Amstrad's love affair with the PC looks like it's here to stay. Where's the technical innovation that inspired the original CPC? Where's the brilliant new 16-bit hobbyist machine that will oust the ST and Amiga?

Let's face it, it's not going to happen. The CPC, Amstrad's first burst of inspiration, will probably be its last. If Amstrad ever did produce a 16-bit CPC I'd eat my hat (if I wore one).

FIENDISH PLOTTING?

While most games publishers are muttering under their breath about the console and cartridge software, Ocean is still plugging away, turning out cartridge games at the rate of one every couple of months or so.

I can't wait for *Toki*, which looks fabulous, but is still a couple of months from release – but in the meantime, the latest cartridge product to roll off those Mancunian production lines is *Plotting*.

Sounds like another puzzle game, doesn't it. That's because it is. It's not entirely unlike *Puzznic*, the idea being that you – playing the part of a kind of

Continued on next page ➤

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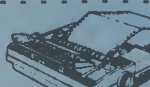

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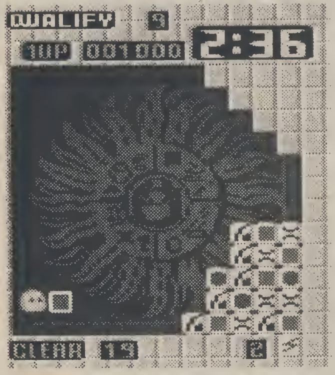
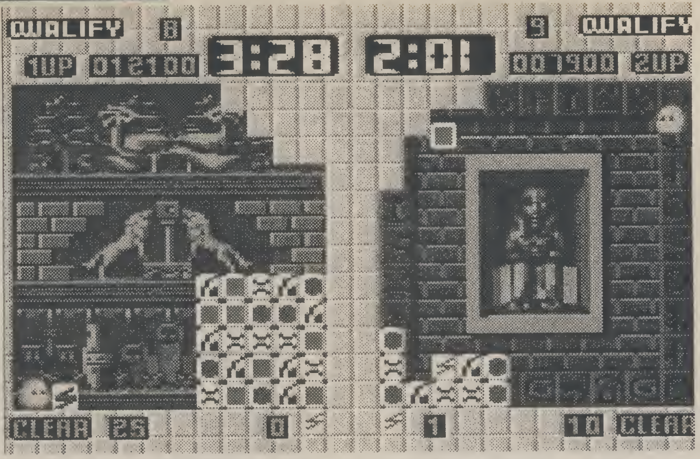
◄ mutated potato – have to lob variously-coloured tiles at a whole pile of the things stacked against the opposite wall. When you hit one with the same pattern and colour as the one you're holding they both disappear, and another tile from the pile is chucked back at you.

You have to reduce the pile of tiles to a certain level within a time limit. Succeed, and you go on to the next level. Fail, and it's Game Over.

It's also Game Over when you lose all your lives. You lose a life when you throw a tile at the last one in a row/column, because the one chucked back at you is always the next in line. Only if there isn't a next in line, you're stuffed.



• There's only one place to chuck that tile – down on to the top of the second column from the right



***• Plotting* has a neat simultaneous two-player mode, but it still doesn't inject much excitement**

The theory goes something like that, anyway. The trouble is, the rules are either complicated or incredibly obscure. I still don't know which.

Graphics and sound? Quite superb – the programmers really have used the enhanced hardware to great effect to effectively achieve 16-bit quality.

If only graphics and sound were enough. The fact is that *Plotting* is dull. It's OK at first, before you quite work out what's going on, but once you have the idea you've more or less exhausted the interest factor.

The simultaneous two-player option is quite jolly, but even that fails to inject much competitiveness. *Plotting* looks better than *Pang*, but doesn't play anywhere near as well. And at £24.50 any game has got to play well…

TALK TO ME…

John R. Hudson of Huddersfield has picked up on something I said in an earlier column about the interchangeability of *Protext* files between the CPC and PCW:

"While there are very few CP/M programs that will run directly on both CPCs and PCWs because of the different sized screens and slightly different keyboards, programs that do not assume a particular screen or keyboard configuration, like many in the Public Domain, will run on either machine without modification.

"Most commercial programs that run on both come either in a different versions for each machine or with an installation program for each version, as with *Supercalc 2*. Once installed, the program behaves in exactly the same way whatever the machine. However, it is usually worthwhile to write a key definition file for use with SETKEYS to get the best out of programs.

"Having said that, all the word-processing, database, spreadsheet, graphics and drawing packages I have tried on both CPC and PCW produce datafiles which can be read by either version of the program and in some cases by the PC versions of the same program.

"But though PCW 8000 series machines will read files from a CPC or 6128 Plus disk, they cannot save them to such a disk. (Hold on a mo, John – my PCW can read from and write to 178K data format disks perfectly happily. It can't make sense of 175K system disks, though. Neither can the CPC make much sense of 173K CF2 format PCW disks…)

"The solution is to get one of the utility programs that allow a CPC or 6128 Plus to read from and write to PCW disks and use this on the CPC or 6128 Plus with any disks containing files created on or to be used by a PCW.

"Examples are:

● *REJOYCE.COM* (REad JOYCE, get it?), published in *Amstrad Computer User*.

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- *PCWDPB.COM* published in *Personal Computer World* April 1988.
- *8256.COM*, available from: MML Systems, 11 Sun Street, London EC2M 2PS.
- The PCW disk reader from WACCI.

"Of these, *PCWDBP.COM* only works with drive B: but has a program to revert to CPC/6128 Plus format without having to reboot CP/M, as you have to with most other programs. As it was published as an assembler program, it can also be adapted for use with other disk formats.

"*8256.COM* comes on a disk (Spool, Shell and other Utilities) which includes a program to format both CPC and PCW disks. So CPC/6128 Plus users do not have to rely on having access to a PCW in order to create PCW format disks.

"PCW format disks can be used either in the CPC or 6128 Plus's drive B: directly with the relevant program or in either drive to transfer copies of data files to or from a CPC or 6128 Plus format disk in the other drive.

"PC disks can't be used with a CPC program but CP/M-MSDOS file transfer programs such as *2in1* from Moonstone Computing can be used to transfer data from CPC to PC and back. However, most PC programs don't use identical datafiles to those used on the CPC."

Ouch! Well there speaks a man who knows what he's talking about. Thanks for all that information, John.

Rod Lawton

C64

- **At last the 3-inch disk drive arrives**
- **Somewhere over the Rainbow (collection)**
- ***Adventure Probe* – the best fanzine yet?**

SIX SECOND WONDER

As reported in *Express* 147 a new 3.5-inch disk drive is to be released for the C64 by TIB. The device plugs straight into the cartridge port, as opposed to the disk drive socket, relinquishing the need for a cumbersome power-pack.

TIB claims the £90 drive will primarily appeal to programmers, in which case the company's decision to bundle it with a games compilation seems a bit odd.

On average an entire 64k of information can be loaded in under 6 seconds – now, forgive me if I'm wrong, but won't 6-second loading be more advantageous to a multi-load game than a programmer?

If the drive is successful, and let's hope it is, it could banish cartridges (and the GS) forever, simply because the disks are staggeringly cheap to produce *and* they can hold more information than a standard ROM cartridge (about 720k).

John Rowlands, full time programmer from APEX, reckons, "It will definitely be a good programmer's tool, with the storage space/fast loading being ideal. From a games point of view it becomes a little awkward, and ultimately it is down to the software houses to produce software for it in order to lure the public into purchasing it."

Compilations would certainly be the best products to achieve this initially, but whether the drive will take off is no sure thing. Had it been released two or three years ago, the situation would have been totally different, and as a result the GS would probably never have been released.

Continued on page 31 ➤

GETTING ADVENTUROUS

In addition to the *3-D Construction Kit* newsletter that I mentioned last week hard-working Mandy Rodrigues also edits the immensely popular *Adventure Probe* fanzine, established some five years ago.

Each monthly issue deals with adventure-orientated games across a whole range of computers (both 8-bit and 16-bit), and for a mere fanzine it is absolutely crammed with useful information.

The latest issue features a veritable encyclopedia of software reviews, which are, on the whole, accurate and informative. There is the obligatory letters page, which is often a little light-hearted, plus a very interesting news page.

Adventures aren't exactly the most straightforward games available, so sections are given over to 'getting started' articles and a useful help section. There are oodles of hints and tips for games old and new, with serialised solutions for games of epic proportions. If all else fails, you could try one of the multitude of telephone helplines – thankfully, none of them are the dreaded '0898' numbers.

Quite simply, *Adventure Probe* is one of the best fanzines I have encountered – indeed, it has a massive following of devoted fans. Each monthly issue costs just £1.50, with countless back-issues also available.

Any self-respecting adventure buff should get hold of a copy immediately. Write to The Editor, *Adventure Probe*, 67 Lloyd Street, Llandudno, Gwynedd LL30 2YP, enclosing an SAE.

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BUBBLE BOBBLE
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FIREBIRD

• *Bubble Bobble*, perhaps the best of the three superb games on Ocean's latest compilation – the *Rainbow Collection*

It should be very interesting to see how the product fares in the marketplace, and rest-assured I'll be putting the drive through its paces in this very column.

CRUCIAL COLLECTION

The *Rainbow Collection* is OCEAN's latest compilation, and though it only contains three games, it is one of the company's best.

● *Bubble Bobble* is perhaps the most accurate arcade conversion ever seen. One or two players take on the roles of Bub and Bob, battling their way through 99 increasingly perplexing levels.

They have no vicious weapons except for their ability to blow huge green bubbles (cringe).When a bubble touches one of the many alien beasties that infest every level, the nasty is trapped inside – pop this bubble within an allotted time and it will die (often leaving a collectable behind).

These bonuses range from trainers (for extra speed), to fruit (for extra points), and other little items for varied effects (level skip, smartbombs, etc).The aim of each screen is to wipe out all the aliens present, but hang around too long and the king of all meanies will appear and stalk your every move.

Graphics on the whole are bright, colourful, superbly animated, and accurate to the arcade original. The music (by genius Tim Follin) is wonderful, but the game's main appeal is playabiltiy – it simply oozes the stuff.

● *Rainbow Islands* is, believe it or not, the sequel to *Bubble Bobble*, but this time our dinosaur-esque friends have been turned into humans (shock,horror). They must traverse the Rainbow Islands, each one made up of four vertically-scrolling levels.

At the top of each is a huge treasure chest, except for the fourth; here you will find the obligatory end-of-level meanie – level one, for example, features a gigantic spider.

Thankfully, the main character is able to cast rainbows which instantly kill anything in their paths. Crushing an island inhabitant (as opposed to zapping it) results in a lovely coloured gem being left behind. Collect them in the correct 'Richard Of York' sequence (Richard Of York Gave Battle In Vain – the initials give you the order of the colours in a rainbow, Red, Orange, Yellow, Green, Blue, Indigo, Violet) and a secret room is revealed at the end of the level.

Graphics are colourful and cute almost to the point of sickliness, and a little blocky at times. The sound is a cheery (and often nauseating) rendition of 'Somewhere over the Rainbow'.

Each level is very similar to the last, and this lessens the appeal of what is otherwise a great conversion.

● *New Zealand Story* is a tale of one Kiwi's struggle against oppression in this case an evil Walrus.

Our hero, Tiki, is the only free Kiwi – all twenty of his chums have been imprisoned by the aforementioned bad guy. Armed only with a bow and arrow, and a nifty snorkel, it's up to Tiki to save the day.

The game is divided into five levels, each consisting of four separate 'rounds'. The aim in each one is to rescue an encaged kiwi. This task is made ever more hazardous by a multitude of weird creatures that try to hinder you. Some ride around on balloons and floating platforms which can be hijacked by Tiki to fly around the level; he can nick some of their weapons too.

Each round is huge, with some rather cunning watery mazes to swim through. There are also lots of fatally spikey things lying around.

On the final round of each level you come face to face with a huge baddy. For example, level one's is a big, pink whale, while level two boasts a grey squid. Hmmm.

The graphics are a little dull in places, but do their job well enough, and the music is jolly. What really lets the whole game down is some shoddy collision-detection, often making platform negotiation tedious.

The *Rainbow Collection* is available on cassette for £9.99 and on disk for £15.99, and, apart from the annoying *New Zealand Story*, is an extremely enjoyable package.

Andrew Roberts

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SPECTRUM

- **Music Writer finally MIDI compatible**
- **New SAM Coupé Public Domain magazine**
- **How to hack your way *Operation Hanoi***

MIDI EXTENSION

In case you didn't already know, the best music making package for the Speccy is G Rowland's Music Writer.

A few columns back I told you how it's been made even better with an extension utility (*COMPILER.XTN*) that allows scores to run independently of the main program. But that's not the only new extension for the package. Another add on XTN program called *MIDI.XTN* now provides MIDI options for budding Speccy musos.

MIDI.XTN means scores or bars can be played through the MIDI instrument of your choice via the RS232 port or a third party interface like Datel's RAM Music Machine.

It includes two other useful options. Program changes and extra chord notes can be sent to your MIDI instrument as well as the monophonic parts. This is apparently a Very Good Thing Indeed.

The author admits, "While the new *MIDI.XTN* doesn't promise the sophistication of sequencing on the 16-bit micros it does make composing music on the Spectrum a much more enjoyable experience for those with MIDI equipment."

What more could any self respecting musical type ask for. *MIDI.XTN* is £10 including postage from G Rowland, PO Box 49, Dagenham RM9 5NY. A leaflet expounding the joys of Music Writer is available from the same address.

POKE PUBLICATION

For regular readers the name of Alan Johns should be deeply etched in the subconscious as belonging to one of the most prolific hackers this column has seen (see his poke for *Operation Hanoi* below).

I mention the generous and eminently talented bloke again because he's just collected his life's work into one volume of Multiface pokes and cheats. Running to 13 pages, it contains hacks ranging from infinite lives in *Blinky's Scary School* (53456,0) to infinite sweets in *Yogi Bear and Friends* (58192,0 and 55945,0).

Presented functionally rather than artistically the reasonable price is £3 plus a 12- by 9-inch SAE from Alan Johns, 62 Aytoun Drive, Erskine, Renfrewshire. And remember, as they always used to say on those old K-tel adverts, this offer is not available in the shops.

• If you own a Sam and you want to get hold of the best PD for your machine then the *SAM Coupé PD update* is what you need

SAM DISKS APLENTY

The SAM Coupé seems to be attracting lots of disk mags singing its praises in stereo sound and showing off its virtues with impressive graphics demos.

The newest one to hit the streets is *SAM Coupe PD Update*. This is from the same team of talented individuals who produce *SAMDISK*.

It aims to collect together a disk load of good quality Public Domain software every issue and offer a "doorway into the expanding SAM PD world."

On the sample issue this includes a collection of news on the SAM and PD world, a few demos, adverts, slideshows, horoscopes and reviews. For £1 it's well worth sampling.

The first proper issue should be out by the time you read this and contents promised include such delights as the Satellite '91 Rolling Demo, Enceladus demos, ads and, er, some more demos.

SAMDISK has a few other things that should interest SAMsters:

- *The Pickasso Portfolio* is a PD disk that apparently features 20 odd screens, 12 fonts and two demos all for £2.
- And, of course, the original *SAMDISK* is still going. The latest one, issue five, has news, tech tips, chat, fonts, screens and demos also for £2.
- If you're a newcomer to the esteemed organ, *SAMDISK The Omnibus* might be the one to go for at the same price.

All these disks are available from *SAMDISK*, 20 Grove Road, Hoylake, Wirral, Merseyside L47 2DT.

It's good to see the SAM Public

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Domain and fanzine scene thriving, and long may it continue.

SUCCESSFUL OPERATION

Another week, another game busting poke routine from good old Alan Johns. Here's the customary operating instructions.

To obtain various infinite things in *Operation Hanoi* simply:

- Type out the following listing omitting any of lines 70, 80 and 90 if you don't require the specified effect
- Save it
- Type RUN
- Start your game tape from the beginning.

```
10 REM OPERATION HANOI (48
   AND 128)
20 REM WRITTEN BY ALAN JOHNS
   (FOZ)
30 BORDER 0: PAPER 0: INK 0:
   CLEAR 25999
40 LOAD ""CODE : POKE
   26113,33: POKE 26116,175
50 FOR N=26117 TO 9E9: READ
   A: IF A<256 THEN POKE N,A:
   NEXT N
60 RANDOMIZE USR 26000
70 DATA 50,191,112: REM INFY
   LIVES
80 DATA 50,208,130: REM INFY
   TNT
90 DATA 50,149,206: REM INFY
   AMMO
100 DATA 233,999 : REM END
    MARKER
```

And so our smug Multiface owning Spec-chums don't feel left out here are two hacks for their splendid piece of kit sent in by Matthew Wilson.

RIPTOFF – 35427,0 – Infinite lives
TEMPEST – 33537,0 – Infinite lives

Thanks to both Alan and Matthew for hacking well above and beyond the call of duty.

NEWS WANTED

Do you have any Spectrum news that we'd be interested in? Send details of your software, product, club, service, fanzine or whatever for thorough plugging to me, Robin Alway at *New Computer Express*, 30 Monmouth Street, Bath, Avon BA1 2BW. Thanks.

Robin Alway

BAD NEWS DEPARTMENT

Hate to ruin your day but someone has just told me about the death of *ETM* (*Enigma Tape Mag*), the thoroughly excellent Speccy tapezine that has been plugged in this column since its first issue. I haven't heard anything from from publishers ESD about this but if true it would be bad to the point of disastrous news for Speccy owners everywhere. More details when I get them.

CONSOLES

- **Gameboy: widescreen and colour on the way**
- **PC Engine: most realistic pinball sim yet?**
- **Sega's Mega-CD: first game announced**

GAMEBOY 2 AND 3?

Nintendo has sold a few million Gameboys since it's launch, but with the colour portables from Sega and Atari in competition, the company has plans to produce a new Gameboy.

• An new widescreen version of the Gameboy is on its way, but whenare we going to see some colour on its screen?

The obvious upgrade would be colour but the word is that Nintendo has instead given priority for a wide screen version of the original Gameboy, so watch out!

It's also rumoured that Nintendo won't produce a colour Gameboy until it can design a machine that will last at least ten hours on four AA type batteries – very ambitious considering all three colour handhelds, including the PC Engine GT, use six batteries and last only a few hours.

Apparently, the main problem is the colour screen which is very power consuming. One possible solution Nintendo is considering is fitting the Gameboy with a solar panel to sustain the life of the battery.

Help could be at hand, as Sharp, which has cooperated with Nintendo on the SF1 Super Famicom/monitor combination, has confirmed that Nintendo's specifications are possible to produce! Maybe we'll see Sharp and

Continued on next page ➤

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MACHINE SPECIFICS

LEVEL LEAPING SONIC CHEAT

This is an old cheat for *Sonic the Hedgehog*, but just in case you didn't know, to get the level select:

On the title screen, press the control pad Up, Down, Left, Right and you should hear a ring. Hold down button A and press START. If you have done it right, you will be able to select which level to start from.

If this doesn't work, try pressing Down three times instead of once.

SONIC
THE HEDGEHOG
SEGA

Nintendo get together to produce the colour gameboy?

MEGA BLAST

The first shoot-'em-up for Sega's Mega-CD will be a conversion of *Aleste*, the vertical blaster released for the standard Mega Drive a few months a go. How the game will make use of the extra features of the Mega-CD is anyone's guess, but we just have to wait and see.

No release dates for the game as yet – well, it does take some time to fill around 540 megabytes!

AMERICAN FOOTIE

Imagineer, which has bought the rights to convert *Populous* and *Kick Off II* for the Super Famicom (the latter game should be available at the end of September under the title *Pro Soccer*), has now also bought the rights for the best American Footie game from Electronic Arts – *John Madden's Football*.

The Super Famicom version looks identical to the Mega Drive version, and should be available around November.

PINBALL REALISM

The best pinball simulations are on the PC Engine, what with the excellent *Alien Crush* and *Devil Crash* from Naxat. The latest will come from FACE. Called *Time Cruise II* it will be available in October.

The game looks fantastic with the main table several screens in length and featuring all the usual bumpers, spinners, ball catches and so forth, plus multiple bonus tables.

However, FACE has added an extra touch. If you own a multi-tap (five-player adaptor), you can connect three pads to it. One pad will start the game and control other features, while the other two pads controls the flippers.

It's recommended that the latter two pads are fixed to the sides of a table to get the 'feel' of a real pinball machine! Crazy of what?! Trust the Japanese to come up with that!

One good thing – kicking the table will never tilt the machine!

WHY THREE LIVES?

Have you ever wondered why most games always seem to give you three lives? Well, according to one Mr Maeda of top arcade company, Taito:

- With five lives, players are too relaxed and there's no tension or excitement when playing.
- Four is considered an unlucky number
- Three is a lucky number, according to old tradition sayings!

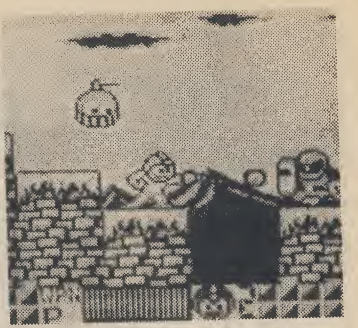
Well now you know!

MEGA-ROCKMAN

Forget *Sonic* on the Megadrive or *Mario* on the Super Famicom, because *Rockman* is here on the Gameboy.]

The game – *Rockman World*, is a brilliant arcade platform romp in which our super hero battles through numerous missions against a bunch of baddies headed by Fireman, Iceman, Elecman and Cutman!

You have to negotiate difficult obstacles ranging from spiked chasms to ice covered platforms. There are also puzzles to solve, devious traps to avoid and a multitude of nasties to take out.



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Onn Lee

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TECH TIPS

Is your mouse not moving where you want it to? Does your printer produce garbage? Want to know what is the best program to use? It's all here...

Shugart sweet

I've recently obtained a Shugart 606 hard drive reputed to be in working order. From what I can gather it's 5Mb and IBM/AMSTRAD compatible. Can you offer any information about it?

Would I be able to hook it up to an XT and if so, how? Also is there a Shugart dealer in the UK with whom I can get in touch with?

Barry Walton, Whitley Bay

5MB HARD DRIVES used to be the standard capacity a number of years back. As you may have been able to tell, 5Mb isn't exactly a large amount of storage, but would be usable in any case.

Unfortunately I have been unable to find a contact number or address for Shugart in the UK. Another option would be to talk to a local computer company about hard drive controller cards and see if it can tell you if a card will control your drive. From what I can gather so far you should be able to use a standard hard drive controller with the drive.

Printer problems

I have a problem when using my Epson LX-85 printer with my ST. When I print out a document from *First Word Plus* I lose the first half page of the data and I get strange form feeds and garbage printed out. I have similar problems with *Degas Elite* and *Certificate Maker*, I lose the first section of data.

The same printer works fine with a Compuadd PC, but does not work with a friend's ST, and my ST works with a friend's LC10. Can you shed some light on this?

Phil Sirvid, Stratford-upon-Avon

THE PROBLEM is that the parallel port is underpowered, as the design of the ST uses the YM2149 sound chip to drive the printer instead of a dedicated Centronics chip. There are several solutions to the problem.

First try a shorter lead, the longer the lead the more power needed to drive it. If this does not work then try a printer buffer from someone like Inmac, although this can be quite expensive.

The third solution is to build a buffer yourself. There were details of this project in issue two of ST Applications, available from the ST Club, which can be contacted on 0602 410241.

Six of the best

1) Can I use an American configured Supra 2400 modem on the BT network just using an adaptor to swap between the network plugs? If so, where can I get one; if not, what else needs doing?

2) What are the best Amiga comms progs and where can I get them?

3) What good free membership services are there, and what are their numbers? Will they support a Supra 2400 modem?

4) Can I use the BT star service called 'call holding' on a modem and cordless phone so they can be used on a single line? I have a tone phone and a digital exchange.

5) How much does it cost to download a disk's worth of PD from a BBS defined at 'a' rate off-peak? How much for a BBS defined at 'b1' rate?

6) How long does it take to download 880K of data using a 2400 baud modem? A friend told me it's 48 minutes. Is this right?

Simon Richards, Twickenham, Middlesex

1) YES. You can get one for under a tenner from just about any shop that sells telephone equipment.

2) *NComm* is probably the best comms program in the world. You can get it from the Public Domain on Fish DISK 356.

3) There are hundreds of BBSs in this country. Two of the better ones are Code-o-matic (telephone 0472 360811) and Cheam Amiga BBS (081 644 8714). Check out *Express* On-line on page 49.

4) No, because whenever another call comes in while you are on the phone, a beep is sounded and this would corrupt any data being sent or received by the modem. Having said that, you can still use a telephone that supports call holding, but you will have to turn the feature off while using your modem.

5) There is no 'a' rate. Calls at cheap rate in band 1 cost just under 5p for 220 seconds. Downloading a disk's worth of code will cost you roughly 68p.

6) Yes, I'm afraid it is.

Atari upgrades

I have a Mitsubishi 3.5- inch floppy, double-sided, high density disk drive model No: MF 355C-358M and wonder if I could utilise this as an external drive for my Atari STFM.

The drive itself is bare, having no PSU or case, and the Atari I am using runs V O. 19 and the ROM date is 22.04.91.

Can I upgrade the Atari to the 1040 model as the circuit board has spaces for 4 x 424256-10 DRAM chips, a space marked 'blitter chip' and spaces for three ROM chips marked FE-L, FD-L AND FE-H.

I feel, from reading your column, that you must be bored stiff answering a query that is in a similar vein to so many that you have had, but I do not have a clue as to how I would go about discovering if the above 'upgrades' are possible. (Is there a book on Atari hardware/software upgrades and add-ons?)

PJ McCreanor, London.

UNFORTUNATELY the Atari ST is not able to use high density floppy drives, as the floppy disk controller WD1772 is only able to cope with single and double density formats.

The TOS version, GEMDOS version, etc, bear no relation to HD drives. However, the Atari Workshop supplies an upgrade kit which consists of a bare internal HD drive and HD floppy controller chip, or external drive with power supply and HD floppy controller or just the controller chip alone. They will also fit it for you. The Atari Workshop is on 071-708-5755

The basic difference between the 520 STFM and the 1040 STFM is the memory. Whether the Blitter chip can be installed depends entirely upon which issue of STFM you have, as some boards actually need drilling.

Your best bet is to contact one of the major companies who specialise in memory and blitter upgrades, such as Ladbroke Computing or Frontier. If you let them know the issue number on the main circuit board they will be able to give the information you need. I do not know of any book that deals specifically with upgrades and add ons.

Pascal package

I am studying programming at college. The language we use is Pascal running on PCs. I would like to be able to do my homework on my Amiga 500. Do you know of any Pascal packages that will work with the Amiga?

Jonathon Pemble, Brixton, London

Getting the right connections...

You ran a small article a couple of months back about connecting the Amstrad monitor to other computers.

Great, but how about telling us if it can be connected to a PC? If so, which – CGA, EGA, MDA, CA?

Many thanks on the forthcoming info.

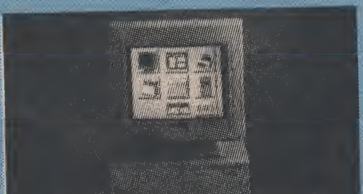
Notts. Forest for the title.

William, address not supplied

THERE ARE A VARIETY of different monitors sold by Amstrad with its machines. As far as its PCs are concerned, the monitors range from mono CGA monitors and colour CGA monitors on the basic 1640 PCs, as well as more advanced EGA screens, to colour VGA monitors like those seen in the new PC5000 series. (See news pages 4 and 5.)

All of these can be connected to a PC reasonably easily, once you have a suitable cable. For more specific details on which cables go with which monitors, it would be best to get in touch with Amstrad on 0277 228888.

As for what title Nottingham Forest should get, we can think of quite a few...



• Your Amstrad PC monitor can easily be connected to any PC – all you need is to get hold of the right cable for your machine

Let the virus take the strain

I am writing to you to inform you of what might possibly be a new strain of virus on the Amiga. I discovered it while checking out some PD with *VirusX v4.01.* I loaded the disk into Workbench then I activated *VirusX*. It told me that it had discovered the Australian Parasite in memory, and asked me if I wanted to set the vectors to zero.

After clearing the memory I switched the machine off as usual for around 20 seconds, then rebooted from hard disk. Then I repeated the same virus check and there it was again.

The upshot of which is this, it seems to me that what I've discovered was a virus which *VirusX* saw as Australian Parasite but was not. According to Steve Tibbet's text file Australian Parasite is a bootblock virus, the new virus is a file virus or Trojan horse. Steve say's that the Australian Parasite virus is harmless and only turns your screen upside down.

The new strain does far more damage. It closes down your floppy drives, but your hard drive is left alone thank goodness. If you try to access a floppy the virus randomly causes a Guru or a systems crash or tells you that your floppy has a read/write error or tell's you that your floppy is not a DOS disk.

But wait a minute, I never thought it possible, it can write to your bootblock's while your disk is write protected! Yep, you read that correctly, and no, I'm not mistaken, I made it write to a protected disk three times, amazing I thought, how in hell can it do that!!!

It's very important how you detect this virus, you MUST put the infected disk in your drive first then active *VirusX*. If you do it the other way about you'll miss it. The virus lives quite simply as part of the *Disk-Validator*, which means it's tough to get rid of. If you try to clear the memory it re-validates the floppy and loads *Disk-Validator* and then the Virus, very clever. If you try to delete the *Disk-Validator* from L directory, the virus senses what you are doing and Guru's you, very neat.

The only solution I've come up with is to copy all the files on the disk on to the hard disk, with the exception of L/Disk-Validator, of course. Then shut down your system for at least 20 seconds, turn on and format a new disk, copy the files to the new disk and copy a clean copy of *Disk-Validator* on to the new disk.

I've written to Steve Tibbet about the new virus and sent him the wee beastie, if you wish to verify then give me a call and I'll down load the beast to you, via modem, if you wish.

Don't forget that it's very difficult to detect – insert your disk into *Workbench* first, then load up *VirusX* or it will get through undetected.

Andy Wilkinson, Lytham St Annes

THANKS FOR THE INFORMATION. The virus you mentioned does seem to be a new variation of the Australian Parasite. In fact, in *Express* 148 Michael Flanz seemed to find a similar strain of the virus, again using *VirusX*. This would suggest that this particular virus is becoming quite widespread.

The debate over whether a virus can write to a write-protected disk has been going on for a number of years now, with the general consensus being that it's not possible.

We're a bit doubtful about your claim that this new virus can write to any disk. But if you send us a copy of it on a disk, do not upload the virus for us, we can see how it works ourselves.

AT THE MOMENT, there is only one Pascal package available. It's called PCQ and is freely available in the Public Domain on Fish Disk 339. It's a little complicated to set up, but I'm sure that being a bright young student you'll have no worries there. Unfortunately, it can't handle some of Pascal's more advanced features.

You might want to keep your eyes open for HighSpeed Pascal, a professional compiler due for imminent release from HiSoft. Contact them on 0525 718181.

Setting up a PD company

I'm writing to correct some mistakes in the answer to the person who wants to start a PD library (DIY PD, *Express* 147).

"Treat the idea seriously, be prepared to solve customer problems, know the product..."

Yes, yes, yes! I couldn't agree more.

"You will be a company and should register as one."

No! You could just as easily be a sole trader, or a partnership. You don't need to register as a company.

"To do this you would go to the IRS and get a VAT number"

No, no, no! To register as a company you go to Companies House. The IRA (Internal Revenue Service) is an American Institution, not relevant to the UK. In this country the Inland Revenue is concerned with Income Tax, not VAT. It requires you to declare your earnings via your annual tax return. The body to contact to register for VAT (if your turnover exceeds £31,000) is H M Customs and Excise.

"If you run the business from home you would have to register the premises for Poll Tax purposes."

Er, the Poll Tax is a tax on individuals, not premises. I've heard a rumour that it's to be done away with.

I think you should stick to the techie aspects and not try to give business advice.

Martin Dryden,
The South West Software Library, Dorset

THANKS FOR THE INFO. We do try to concentrate on technical matters as much as possible, but really we are dependent on the letters we get sent in to answer. Business matters are probably out of the scope of this column, but when we get asked something like that, to a certain extent we are obliged to answer them.

That said, to everyone out there reading this column, please try to confine your questions to those dealing with technical matters, preferably about computers...

Mouse trouble

I have had my 520STFM for just over two years, and recently I have had severe problems getting the mouse to work. As I still have the original Atari mouse, I thought it could be that at fault, so before buying a new mouse, I tried a friend's on my ST. It did not work.

When playing two player games, if a joystick is connected to the mouse port, with a multi-meter and everything is still connected, so I think it could be the keyboard chip. As I cannot afford to have it repaired professionally, I would like to attempt the repair myself. If it is the keyboard chip that is faulty, do you know where I can get another from?

Also, I have a 24-pin Epson LQ-500, and I cannot get Alternate-help to work with it, every line of the screen is printed on the same line, ie, the paper is not being fed through. What am I doing wrong?

Andrew Wales, Sheffield

WELL, IF IT IS THE KEYBOARD PROCESSOR it is quite easy to replace as it is one of the few chips which has a socket on the ST, which means you don't have to do any soldering. The keyboard processor is a single chip computer (controller) from the 6800 family, the 6301. It is usually available from Silica Shop (081-309-1111) and the current price is £20 plus VAT.

The Alt-Help problem is quite common as the screen dump routine is set up for 9-pin Epson compatible printers. The answer lies in a PD program which replaces the screen dump routine with its own routine. Also included on the disk is a program which lets you create your own customised printer driver. The disk is available from the South West Software Library at PO Box 562, Wimbourne, Dorset BH21 2YD, and is called The Alt-Help Solution.

All coupéd up

I read the letter from David Pitcher in *Express* 145 praising the Sam Coupé in some disbelief. 'The display chip is quite frankly superb' ... 'very impressive specs.' ... 'Multi-tasking'?'

Fact: the display chip is not superb. It is possibly pretty good. The only way the Sam manages to get 128 colours on screen is by physically getting in there and changing the colours every 50th of a second, thus slowing down horribly. In reality it has only 16 colours on screen – the 128 colours are the palette from which each of the 16 colours are assigned.

Fact: the Sam Coupé does not multi-task. The processor has enough problems running just one program. I admit that the 6-channel stereo sound chip is superb, but it is incredibly complex to program, even through BASIC.

Enigma Variations is experiencing major problems with supporting the machine. Fortunately we have Samco's own Revelation label (*Prince of Persia*, – a *YS* Megagame) which is trying to get Psygnosis to license a Coupé version of *Lemmings*.

Generally, the Coupé is a machine with a very nice keyboard. Its MIDI capabilities, its 6-channel sound chip, its price and its ASIC all go towards making it a wonderful machine.

Unfortunately, the 8-bit processor, the inferior display, its lack of Centronics and RS232 ports (which you have to plug into the expansion port and cost £30), its non-standard sound output port, the high prices of memory upgrades (£80 per Mb) and the expansion unit all go to make it a machine to place in the cupboard under the stairs.

What the Coupé needs is a cheap upgrade card, with more colours, higher screen resolution, a Z280 chip, hardware sprites and a board to fit your own memory chips, all in one unit featuring at least three expansion slots.

Geoff Winkless, Leicester

WELL, IN TERMS OF HARDWARE the Sam Coupé does have a lot going for it. Whether the Sam will be able to survive depends on the support it gets now and what it will get in the future. Also, it cannot be denied that the Sam is up against the wall competing against the more powerful Amiga and Atari ST.

It's good to see an 8-bit machine trying to compete with the big boys, and getting good support. How long this will last is another matter. ■

PROBLEMS?

Keith Pomfret might be able to help you so write to:

Keith Pomfret, Tech Tips,
New Computer Express,
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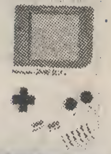

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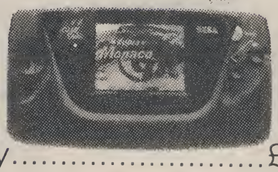

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● **PLEASE** please has anyone got an Amiga TV modulator they can sell me. Will pay up to 15 pounds, will collect from Brighton area only. Call Nick (0273) 673639 or write to : 7 Brede Close, Brighton, BN2 5GR.

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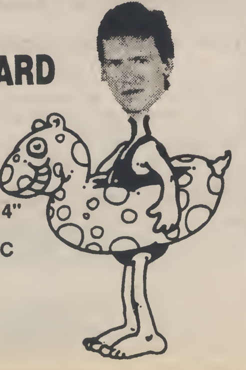

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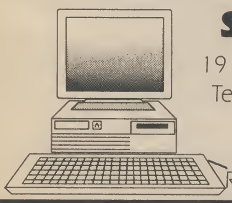

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A

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A–Board	0375 23201	2400, 8/N/1
Above Board	0254 682862	HST
Absolute Zero Q	081-741 7233	V21/22/22b/23
Advance (Opus) Hull	0482 586285	Up to 2400
Agnus	061-976 1559	V21/V22/V22bis
Alchemist	0666 504597	
Alternate Reality	0352 856626	V21/22/22b/23
Alternative Viewdata	081-761 8220	V21/23/23v
Almac PC Board	0324 665371	300–2400MNP5
	0324 665460	HST
	0324 665449	Hayes V 9600
Amiga II	0619 626377	
Amiga Board	0268 510495	V22/22b/23
Amiga Connection	081-981 9289	V21/23
Amiga Shack	0737 361178	V21/22/22b/23
Amiga South East	0293 28464	V21/22/22b/23
Amtech Support	0202 294716	V21/22/22b
Andrew's BBS	0384 296964	V21/V22/V22bis.
Andromeda Galaxy	0243 379430	V21/22/22b/23
Angus	061 976 1559	V21/V22/V22bis
Apparition	0268 289105	
Apricot Tech Sup	021-456 2402	V21/22/22b/23
	021-456 2401	V21/22/22b
Arcade Fantasy	0533 376056	300-2400
Arena	0625 539063	V21/22/22b/23
Aspects	061-792 0260	V21/22/22b/23
ASTon-line	081-847 5389	
Attic	081-308 0466	V22/22b

B

Babbs Tower	0394 276306	V21/22/22b/23
Barney's Rubble	021-441 1801	V21/22/22b/23
Bart Simpson BBS	0241 89261	up to 1200
Bay	0843 225669	V22 Bis/MNP5
Beyond Belief	0642 787898	V21/23
Blitter BBS	0292 671638	300-2400.
Body Matters	071-603 7581	V21/22/22b/23
Bona Board	081 675 7549	2400
Brunel BBS	0272 584352	V21/22/23
Budget	021 311 1068	Up to V22bis
Buz Board	081-202 9175	V21/22/22b

C

Cargo BBS	0420 475462	V21/22/22bis
Campus Ros	0223 357445	V21/22/22b/23
Canonbury	071-704 2535	V22/V22bis
Castle BBS	0276 691872	V21/22/22b/23
Cats Board	0628 824852	Hst
Central BBS	021-711 1451	V21/22/22b/23
Chipboard	0532 320225	V21/23/23v
Chichester	021-770 6937	Up to 2400bps
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The City BBS	021 352 1237	300-2400
CIX	081-399 5252	V21/22/22b/23
Clapham Junction	0234 64261	V21/22/22b/23
Cliff's Corner	0502 518274	V21/22/22b/23
Connections	081-903 1309	V21/V23/V22/V22bis
Compass!I	0942 896661	
Computers 4 Christ	0926 428294	V21/22/22b/23
Connections	081-903 1309	V21/23/23v
Connex	071-431 3922	Hst
Cp/m User Group	0753 868196	V21/22/22b/23
Crown Green	071-245 1512	V21/22/22b/23
Crystal Junction	0384 441929	V21/V22/V22bis/HST
Crystal Tower	081-886 2813	V21/22/22b/23
Cure	0604 27865	Hst
Cv Database Bb	0427 810211	V22/22b
Cybernet	071-978 8595	up to 2400 + Mn8
Cyberspace Amiga	0295 275045.	V21/V22/V22bis
Cynotel	081-346 2816	V23v

D

DIE	061-434 9907	V21/22/22b/23
Dabblers' Lair	0270 624248.	
Dambusters	0203 333195	V21
Dark Crystal	081-207 2989	Hst
Dark Halo	0392 434477	Hst
Dark Side	0446 33729	V21
Darkhaven	0604 413716	V21/22/22b/23
Data Network	081-478 5464	V21/22/22b/23
Datanet	0245 323693	Up to 14.4kbps
Datasel/wanderland	081-680 5330	V23
Datasoft Opus BBS	0460 54615	V21/22/22b/23
Datatrade Q	0536 725180	Hst
Dbase User Group	0532 842213	V21/22/22b
Delta	0252546269	
The Demo Factory	0892 516304	300-14.4K/HST/V32
Diamond Opus	0791 86504	Hst/v32
Digital Matrix	021-705 5187	V21/22/22b/23
Direct Access	0935 79760	up to 2400
Direct-line 1	081-841 1847	V21/22/22b/23
Direct-line 2	081-842 2030	V21/22/22b
The Dock	091 454 6978	300 to 2400
Domain BBS	081-773 2422	V22/22b
Dragon's Tower	081-202 0709	V21/22/22b
D-TEL Viewdata	0325 332117	V23
Dunedin Blackhole	031-669 2974	
Dwarfen Realm	0376 501036	V23v

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Empyrion	0792 580781	V21/22/22b/23
Engineers Workbench	051-327 7036	V21/22/22b
Equaliser	0232 454097	V21/V22b/V23
Eureka II	081-683 0629	V21/22/22b/23
Exchange S/w	0767 5051	V21/22/22b/23
Eye-2	0525 715789	V21/22/22b/23

F

Fal Opus	0736 794827	V21/23
Falcon BBS	081-527 4165	V21/22/22b/23
Family Skeletons	0480 812097	V22b
Fatter Angus	0703 420118	V21/V22/V22bis
Fido UK1	0734 713909	V22/22b
Flight Path	081-759 1957	V22/22b
Focus International	0905 795002	
Focus Tbbs	0303 42690	Hst
Focus Uk	0905 774477	V21/22/22b/23
Folkestone BBS	0303 45203	V21/V23/V22/bis
Forth View	031 660 6680	V21/22/22b/23
Fourth Dimension	0202 600305	V21/V22/V22bis/V23
Foundation	0473 688183	12/2400
Free For All	0763 261624	V21/22/bis/23

G

Gallery QBBS	081-847 2795	V21/22/22b
Game Over	0752 848070	V21/22/22b/23
Games Online	0273 699200	
Ger's Lair	071 436 5749	300-2400
Gnome At Home	081-888 8894	V23v
Gods	081-994 9119	V21/23
Golly!	0734 320812	V21/22/22b/23
Good Life	081-541 0187	Hst
Gosh BBS	0257 267186	V21/V22/V23
Gourmet	0474 536654	V21/22/22b
Grainstore	0905 770198	V21/22/22b
Grenadier	0825 762803	V21/22/22b
Guersey Island	0481 48393	300/1200/2400

H

Harlequin	061-945 3612	V21/22/22b/23
Hastings BBS	0424 717919	V21/22/22b/23
Hawk's Castle	0344 411621	Hst
Hawk's Realm	081-863 8751	300-2400
Hazzard	071-737 0505	V21/22/22b/23
Hilary's Board	0277 233468	V21/23
Humberside East Coast Systems	0964 614524	300, 1200, 2400

I

Ichthus (trinity 3)	0734 461466	V21/22/22b/23
	0903 700771	V21/22/22b/23
Industrial Archaeologists Diggings BBS	0517 331135	300 to 2400

J

Jersey BBS	0534 37779	V21/22/22b/23
Jersey Opus	0534 39389	V21/22/22b/23
Jocks Away!	031-225 5368	V21/22/22b/23
Jolly Fisherman	0754 67796	V21/22/22b/23
Jolly Roger	081-742 1640	V21/22/22b/23

K

Kirklees Opus	0484 665415	V21/22/22b/23
King Of The Castle	0233 620228	V21/22/23
Komputer Knldge	0844 274066	V21/22/22b/23

L

Labyrinth	051-724 4458	V21/23
Lamplight Qbbs	0705 811531	V21/22/22b/23
Laser Tbbs	0532 438430	V21/22/22b
Lau's Ql Bb	081-751 6096	V23v
Level 9	0926 889208	300-2400
Lightfinger's Place	0202 485723	V21/22/22b/23
Linelight	0580 212043	V23v
Linx BBS	0522 511277	V21/22/22b/23
Nova-net	0274 370760	V22
Liverpool Mailbox	051-428 8924	V21/22/22b/23
Liverpool Ros	051-931 4271	V21/22/23
Loch lomond	0389 55762	V22/v22bis
Loft	0442 230461	V21/22/22b/23

BBS LISTING

Logical BBS	0772 623167	300-2400
London City Mag	081-468 7648	V21/23/23v
London Connexion	081-667 1313	V21/22/22b/23
London Embassy	081-366 1778	Hst
London Mail Centre	081-534 1200	V21/22/22b/23
London Metropolis	081-519 1055	V21/22/22b/23
Loony Bin	0703 787489	V21/23

M

Mach II BBS	0242 260 685	V21/22/22bis
Mactel Metro	081-543 8017	V21/22/22b/23
Mactel Phoenix	0473 610139	V21/22/22b/23
Madness BBS	0603 300947	V21/22/22b/23
Magic Castle BBS	021-430 3761	V21/22/22b/23
Magic Mushroom	0361 83641	V21/22/22b
Magnum	0274 547006	V21/22/22b/23
Magrathea	0376 24402	V23v
Malvern BBS	0684 892904	up to 2400
Manor	0980 863031	V21/22/22b/23
Marctel	081-346 7150	V21/23/23v
Matrix	051-255 0225	V21/22/22b/23

Max BBS V21/V22/V22bis/V24/V32/V42/V42bis/9600/14K4/MNP and LAPM. Numbers as follow:

0905 52536	Alien Node
0905 57822	We/ve Got A Hot One Here
0905 58030	Throbnet Node
0905 56610	So You Like Spam Node
0905 57112	Dirty Lines Node
0905 56335	Amiga Node
0905 58042	Troffers Node
0905 754151	For All Software Troffers
0905 754127	Live and Kicking Dawn Raid

Maximum	0905 429595	
Mbbs Mitcham IIc	081-648 0018	V21/23
Medway	0634 280031	V21/22/22b
Merlin	0443 834179	V21/22/22b/23
MetNet Train System	0482 473871/442251/449028	V22bis/V23 and faster
Micro Live	081-567 6500	V21
Micro Update	081-877 1529	V21/22/22b/23
Microdeal	0726 65422	V21/22/22b/23
Microlog	0422 71921	V21/22/22b/23
Midget Gem	0748 834836	V21/23
Mind Boggles	0362 762868	V21/22/22b/23
Miridian	0273 588924	up to 2400.
Mininet 3	0642 672813	V21/22/22b/23
Miracom Support	0473 232540	Hst
Mirage	061-652 1242	V21/22/22b/23
Mirror II	0628 810889	V21/22/22b/23
Mirrorworld/quest 1	0883 844044	V23-
Mission Impossible	0602 654329	Hst
Mk Board	0908 671289	V21/22/22b/23
Movie BBS	0703 650037	V21/V22/V22bis
Multi BBS	041-649 9043	V21/22/22b/23
My Little Phoney	0793 849044	V21/V22/V22bis/V32/HST

N

Network 23	0274 482021	V23v
New Wave	061-839 5381	V21/V23/V32/HST.
Night Hawk	0329 45384	300/1200/2400
Nite Life	071-976 6807	V21/22/22b
No.1 BBS	081-958 1689	V21/22/22b
Noah BBS	0272 572322	300-2400
North Wales BBS	0978 88372	V21/22/22b
Northern Lights	0768 773685	V22/22b
Norwich Onion BBS	0603 423305	V21/22/22b/23
Nova	0455 553371	V21/22/22b

O

Odd-ball	081-679 2583	V21/22/22b/23
Odyssey	0482 870919.	
On The Beach	0273 600996	V21/V22/V22bis/HST
On-Line Entertainment Ltd	081-539 67638-N-1/V22/V22bis/V23	
Open Access	081-427 3974	
Optix	0482 872294	V21/22/22b/23

P

Palm Beach	0303 265979	V21/22/22b/23
The Paradise Club	081-871 4300	V21/V22/ V22bis/V23
Pazaz Viewdata	0383 620259	V23v
PC Access	071-608 0081	V21/22/22b/23
PC-Amiga Link	04023 84914	up to 2400
PC Forum	0322 335348	V21/22/22b/23
PC Link	0375 674046	V21/V22/V22bis/V32
PC Serve Shop	081-864 2633	V21/22/22b/23
PC Serve Softnet	0895 420164	V21/22/22b/23
PC Serve Storehouse	0494 728094	V21/22/22b/23
PC-VAX Opus	081-800-3549	V21/22/22b/23
PC/Amiga BBS	0602 735119	V22/22b
Peacenet West	0895 448998	V23v
Pegasus	0905 755085	V21/V22/V22bis/HST 14.4/V42/V42bis.
Phacs South West UK	0752 361291	V21/V22/V23/V22bis
Phantom	0226 340425	V21v/22v/23
Phoenix	0249 817704	Hst
Pleasure Island	0628 472996	2400 to14,400bps
Project BBS	0384 401770	V21/22/22b/23
Prometheus	081-300 7177	V23v
Proximity	0793 480028	V21/22/22b/23
Publishing Shop	091-261 5228	V21/22/22b/23
Public House	022-665 907	V21/22/22
Purely PC	0232 645942	V21/22/22b
Pyroto Mountain	0895 59071	V21/22/22b

Q

Quantum	021 707 0681	V21/V22V22bis
Quasar	0846 693067	V21/22/22b

R

Random Access	0282 817379	V21/V22/V22bis/9600/HST/V32
Really Interesting	0582 414991	
Reflex BBS	0703 685527	V21/22/22b/23
Regency BBS	0542 33050	V21/22/23
Road Runner	061-483 4105	V21/22/22b/23
Royalink Uk	0962 66807	V21/22/22b

S

SAC BBS	0242 260685	V21/22/23/22b
Sanctuary	0329 236612	V21/V22/V22bis/HST
Scabbs	0909 479080	up to 2400
Scary Monster	0734 320297	Hst
The Schizophrenic Wolf	0772 456526	V21/V22/V22bis
Scottish Opus	041-880 7863	V21/22/22b/23
Scottish Wildcat	0674 671141	V21/22/22b/23
Sentinel Bb	0628 781429	V21/22/22b/23
SES Databoard	0622 630240	V21/V22/V22bis
Sherwood Forest	0602 397113	V21/22/22b/23
Short Circuit	0273 462967	Hst
Sigma IV	081 330 7738	
Sirius	081-542 3772	V21/22/22b/23
Sirius II	0494 778425	V21/22/22b
Six And Five Eights	0273 688888	V22/V22bis
Skull	0379 740972	V22/V22bis
Skull's Tower	081-943 1194	V21/22/22b/23
Sleepy Town	0234 267231	V21/V22/ V22bis
Sphere BBS	0294 221350	V21/22/23/22b
Spud's Xanadu	0203 686819	V21/V22, V23, V23b
Sputnik Spitfire	0501 31754	V21/22/22b
St London BBS	081-443 2432	V21/23
Stabb	0793 855176	V21/22/23/22b
Steve and Jackie	0703 650037	V21/V22/V22b/V23
Strange Brew!	081-665 5038	V22/22b
Style QBBS	0442 381164	300–14.4K (HST)
Superbase User Group BBS	081 339 0096	300-14.4K/HST/V32
System X	0904 612934	2400

T

TABBS	0533 517615	V21/22/23
Tabbs	0225 743797	V21/22/22b/23
Taecomm	0994 6709	V21/23
Taff's Retreat	0834 4562	V21/22/22b/23
Tardis	0772 27236	V21
Trinity I	0392 410210	V21/22/22b/23
Trinity II	0367 22764	V21/22/22b/23
Tug II	0905 775191	V21/22/22b/23
Twilight Zone	081-788 0884	V21/22/22b/23
Twilight Zone II	071-608 1485	Hst

U

Unauthorised Access UK	0636 708063	1200/2400

V

Valente'S BBS	071-978 2078	Hst
Vector System	0329 45824	Hst
Viking East Anglia	0255 503048	V23v
Village	081-464 2516	V21/22/22b/23
Village Fayre	081-841 5971	V23
Voyager BBS	061-725 9580	V21/22/22b/23

W

Wally's Board	0506 440582	V21/V22/V22bis/V23
West Norfolk	0553 761290	1200/2400
White Lightning	0635 37259	V22/22b
Wizard	0703 702427	up to 2400/MNP
Wolverhampton ROS	0902 745337	V21/22/22b/23
Womble Base	081-979 9606	V23
Woodgreen BBS	081-889 5624	V21/23

Y

Yugo BBS	0734 753648	V21/22/22b/23

Z

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THE PLACES TO BE . . .

Making the Difference
Now – Tue 31 Dec
At the Science Museum, Kensington, London. For further information telephone: 071-938 8080.

All Formats Computer Fair Sat 7 Sept
Royal Horticultural Hall, London. Info: 0225 868100.

PLASA Light & Sound Show
Sun 8 – Wed 11 Sept
At Olympia, London. Info: 071-370 8174.

EEMA Thu 12 – Fri 13 Sept
European Electronic Mail Association Autumn Conference at the Hotel Thermal, Budapest, Hungary. Info: +44386 793 028.

Leeds Computer Extravaganza
Fri 13 – Sun 15 Sept
At the New Exhibition Centre, Leeds University. Info: 0532 677 657.

All Formats Computer Fair
Sat 14 Sept
National Motorcycle Museum, Solihull. Info: 0225 868100

CP/M & MSDOS User's Group
Sat 14 Sept
At the Spring Lodge Community Centre in Witham. Info: 0376 517496.

Business Computing '91
Tue 17 – Fri 20 Sept
At the Earls Court Exhibition Centre, London. Info: 071-486 1951.

International Police Exhibition and Conference '91
Tue 17 – Thu 19 Sept
At London's Barbican Exhibition Centre. Info: 081-995 7700.

The Works of Charles Babbage
Thu 19 Sept
Lecture at the King Edward VI College, Totnes, Devon at 14.15. Info: 0803 863821.

All Formats Computer Fair
Sun 22 Sept
At City Hall, Glasgow. Info: 0225 868100.

Milcomp '91
Tue 24 – Thu 26 Sept
Conference on computers in the military environment, being held at Wembly Conference Centre, London. Info: 0892 544027.

International PC Security Conference
Tue 1 – Thu 3 October
Covering viruses, piracy, hacking, access control, back-up, data recovery and computer law. Info: 0256 381583.

All Formats Computer Fair
Sun 6 Oct
At The Brunel Centre, Bristol. Info: 0225 868100.

Effective Management of Information Technology Security Conference
Mon 7 – Tue 8 Oct
At the Forte Crest Regents Park Hotel, London. Info: 071-587 1117.

Computers Count Tue 8 – Thu 10 Oct
At Totnes Civic Hall. Info: 0803 863821.

Business Communications Awards
Thu 10 October
At the Savoy Hotel. Info: 0800 800 847.

Charles Babbage's Impact on Modern Computing Wed 23 Oct
At the Science Museum, London at 17.30. Info: 071-938 8196.

Image Processing '91
Tue 29 – Thu 31 Oct
At Birmingham NEC. Info: 081-868 4466.

System Builder Wed 30 – Thu 31 Oct
At Sandown Exhibition Centre, Esher, Surrey. Info: 0822 614671.

Computer Animation Festival
Thu 31 October – Fri 1 November
To accomapny the Computer Graphics '91 Conference, this festival will be taking place at the Marble Arch Odeon. (Rescheduled from 5 November owing to a screening of the epic film *Spartacus*). Info: 081-868 4466.

Computer Graphics '91
Tue 5 – Thu 7 Nov
At the Alexandra Palace, London. Topics include computer animation, Virtual Reality and visualisation. Info: 081-868 4466.

Desktop Cad '91 Tue 5 – Thu 7 Nov
As above.

Open Systems '91 Wed 6 – Fri 8 Nov
Olympia, London. Info: 0784 472200.

All Micro Show and Radio Rally
Sat 9 Nov
Bingley Hall, Stafford. Info: 0473 272002.

Computers in the City
Tue 12 – Thu 14 Nov
At the Barbican Centre, London. Info: 081 868 4466.

World of Commodore Show
Fri 15 – Sun 17 Nov
A show for all things Commodore, , presented by the *Amiga Format* team. At Earls Court, London. Info: 0462 420785.

The Next Generation: Computing with Light Thu 21 Nov
Lecture at the King Edward VI College, Totnes. Info 0803 863821.

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EXT 21

PRICES & SPECIFICATION SUBJECT TO CHANGE E & OE

AMIGA

- Appreciate the finer things in life with HB Marketing's *Connoisseur Collection*
- Turbo charge your Amiga with CSA's new Magnum '040 accelerator card
- Where to buy A3000 power for under £2,000

If the Amiga's Command Line Interface (CLI) leaves you confused and frustrated, then you'll no doubt be pleased to hear about a new utility which claims to take the drudgery out of the Amiga's DOS command line interface.

DiskMaster 2 completely replaces the CLI with a fast and efficient Intuition-based front end that allows you to carry out all those tasks that would have previously have been the domain of CLI hackers only.

DiskMaster 2 is a disk utility program that combines the most used CLI disk commands in an easy to use point and click mouse environment. It can also take advantage of external programs, text editors, file editors, picture or animation viewing utilities and a lot more besides.

Communication with other programs is possible thanks to a built-in ARexx port which allows *DiskMaster 2* to execute complex ARexx scripts, allowing complex disk operations to be carried out automatically.

DiskMaster 2 is very similar to Timm Martin's freely distributable SID utility, although it's not quite as easy to use. Not only that, it's also a little daunting at first. However, continued use reaps rewards and you'll soon discover that *DiskMaster 2* is a powerful and very capable disk management system.

☎ Phone HB Marketing on 0753 686000.

THE NEED FOR SPEED

Bytes and Pieces has established itself as one of the market-leading suppliers of accelerator cards for the Amiga. The CSA 68030 card is its mainstay, fitting both the B2000/1500 and the A500.

Due out within the next eight weeks is CSA's newest processor card which takes advantage of the latest 68040 chip from Motorola.

According to Bytes and Pieces, there are already '040 cards available for the Amiga but these use beta test versions of the '040 and not final release chips.

Motorola supposedly flooded the market with cheap beta test '040 chips which do not contain the final release instruction set. As a result, incompatibilities may occur. Not only that, but you really need *Kickstart 2.0* installed inside your system to take full advantage of the '040's speed. Without this, the '040 will only run at a fraction of its true power.

The new Magnum '040 from CSA has been specifically designed for the B2000/1500 Amiga machines (revision 6.2 machines). The unit comes with three interfaces on board which link directly into the '040 bus. The first is a super-fast SCSI interface which offers read speeds of 3.5Mb per second. There's also a serial and a parallel port. Once again, both of these connectors link directly into the '040, allowing for blisteringly fast communication between the Amiga and external devices.

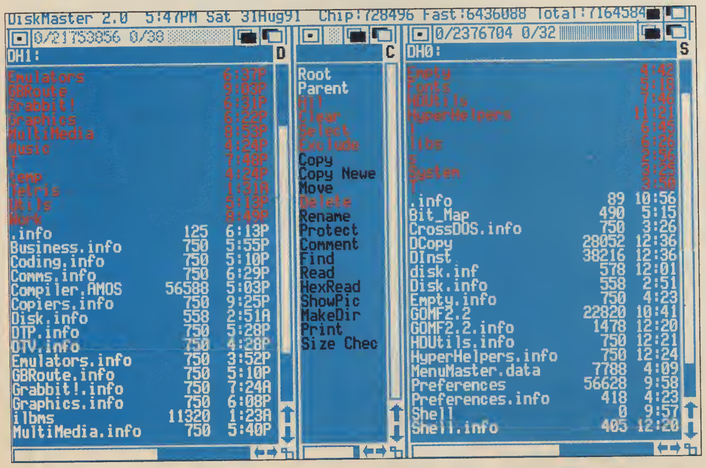
The board will come as standard with 5Mb of RAM which can be expanded to a massive 64Mb. 1Mb of that 5Mb is SRAM which is used to dump *Kickstart 2.0* into 32-bit RAM with further SRAM left available for user customisation.

CSA has designed the Magnum '040 with Video Toaster and raytracing users in mind. With this board installed inside your machine waiting for ray traced images to appear will become a thing of the past. The original '030 card from CSA improved the Amiga's performance by a factor of 8.5, but this new card increases the performance of a B2000/1500 by over 40 times! Sounds wonderful doesn't it?

I would love to own one, as I'm sure you would, but there's one big problem – the price. Unfortunately for us poor little people, it looks like the CSA Magnum '040 is going to be a product for the professionals only. Coming in at £2,500, the Magnum '040 isn't going to be appearing in anyone's Christmas stocking this year.

Oh well, we can but drool.

☎ If you *are* feeling loaded, then phone Bytes and Pieces on 0253 795376.



```
DiskMaster 2.0  5:47PM Sat 31Aug91  Chip:728496 Fast:6436088 Total:7164584
```

```
0/21753856 0/38                           D
DH1:
Emulators                         6:37P
GBRoute                           9:03P
Grabbit!                          6:31P
Graphics                          6:22P
MultiMedia                        8:53P
Music                             4:24P
T                                 7:48P
temp                              4:24P
Tetris                            1:31A
Utils                             5:13P
Work                              8:49P
.info                     125     6:13P
Business.info             750     5:55P
Coding.info               750     5:10P
Comms.info                750     6:29P
Compiler.AMOS           56588     5:03P
Copiers.info              750     9:25P
Disk.info                 558     2:51A
DTP.info                  750     5:28P
DTV.info                  750     4:28P
Emulators.info            750     3:52P
GBRoute.info              750     5:10P
Grabbit!.info             750     7:24A
Graphics.info             750     6:08P
ilbms                   11320     1:23A
MultiMedia.info           750     5:40P
```

```
            C
Root
Parent
All
Clear
Select
Exclude
Copy
Copy Newe
Move
Delete
Rename
Protect
Comment
Find
Read
HexRead
ShowPic
MakeDir
Print
Size Chec
```

```
0/2376704 0/32                            S
DH0:
Empty                              4:42
Fonts                              5:18
HDUtils                            7:46
HyperHelpers                      11:21
l                                  6:45
libs                               6:26
s                                  2:56
System                             3:25
T                                  3:50
.info                       89    10:56
Bit_Map                    490     5:15
CrossDOS.info              750     3:26
DCopy                    28052    12:36
DInst                    38216    12:36
disk.inf                   578    12:01
Disk.info                  558     2:51
Empty.info                 750     4:23
GOMF2.2                  22820    10:41
GOMF2.2.info              1478    12:20
HDUtils.info               750    12:21
HyperHelpers.info          750    12:24
MenuMaster.data           7788     4:09
Preferences              56628     9:58
Preferences.info           418     4:23
Shell                        0     9:57
Shell.info                 405    12:20
```

• ***DiskMaster 2* is a powerful yet simple-to-use replacement for the Amiga's Command Line Interface (CLI) that employs a nice friendly mouse driven frontend to achieve tasks such as file transfers and disk copying with ease**

A3000 POWER ON THE CHEAP

Staying at Bytes & Pieces, it's just released a new Amiga-based system that offers A3000-like performance at a considerably lower price. For just £2000 you get an Amiga based on a revision 6A 2000 which is placed inside Bytes & Pieces' own metal casing with an external keyboard.

Inside the shell is a CSA 68030 card running at 25 or 33MHz with a co-processor option available which can speed certain operations up to a whacking 50MHz. It comes as standard with 2Mb of 32-bit RAM (which can be expanded to 8Mb) of which 512k which is set aside as SRAM for storing the Amiga's operating system. By placing the OS in 32-bit RAM, system operations are speeded up considerably.

Also installed as standard is a MicroWay flicker fixer which, when used in conjunction with a multisync monitor, reduces the amount of interlace flicker when the machine is used in high resolution. For storing data, the unit also comes with a 52Mb Quantum hard drive and 2Mb of 16-bit chip RAM.

For anyone who is after a high performance Amiga without having to shell out for an A3000, the Bytes & Pieces system certainly seems like a good bet.

☎ Find out more from them by phoning 0253 795376.

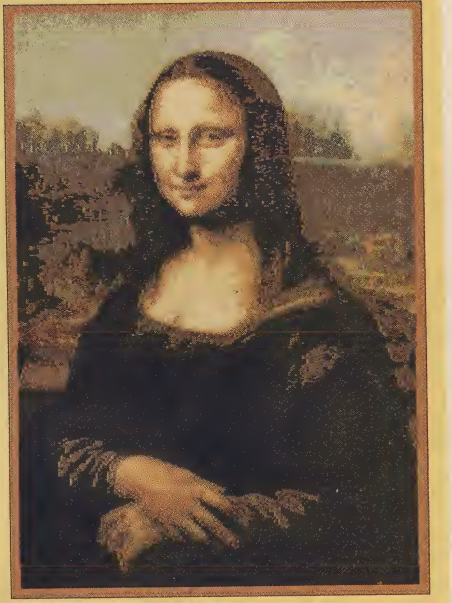
Jason Holborn

CLASSICAL COLLECTION

The prize for the naffest idea of the week has to go to HB Marketing which has released a number of digitised art packs called the *Connoisseur Collection*.

Each disk contains digitised images of famous works of art. They are designed specially for teaching art and design, desktop publishing, home videos and business presentations.

The images themselves have been digitised mainly in HAM interlace mode, giving 4096 colours. For even better resolution, others are digitised in high resolution with 16 colours and plenty of dithering. The quality of the images is pretty stunning, but I'm still not entirely convinced that anyone would want to buy such art packs.



• **That enigmatic smile arrives on the Amiga thanks to HB Marketing's *Connoisseur Collection***

Clip art is very popular among DTP people, but who is actually going to want to spend out money on a digitised Renoir or Van Gogh? HB certainly seems to think someone will want to.

☎ If you feel like a little art appreciation on your Amiga, then phone HB Marketing on 0753 686000.

DEVELOPERS CONFERENCE

If you're a developer, then you may well be interested in a developers conference which is being organised in this country by ASAP, the company behind such products as the MiniGen genlock and AmDrive hard disk system.

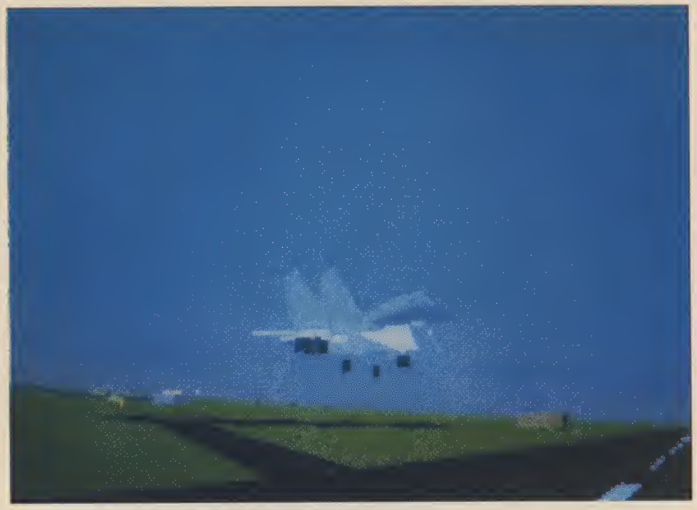
The conference, which is planned for 22 November, is to be held in Buckston, Derbyshire. ASAP needs as much support as possible, so contact Gordon Shields and pledge your allegiance.

☎ For further information, telephone 0724 280222.

I will be attending, so I hope to meet many of you there.

ST

- Soviet *SuperFulcrum* sim swoops in
- An ST-conducted symphony livens up a lacklustre Atari fair in Dusseldorf
- Original arcade smash in major revamp



• "Ladies and gentlemen, we are now coming into land. On your left you will notice the rolling paddy fields and on your right several large tanks hurtling toward us at breakneck speed. Thank you for flying *Air MiG-29M SuperFulcrum*, and goodbye."

According to Domark, *MiG-29 Fulcrum* has earned the company £1,250,000 in sales since its January launch. Obviously Domark's not content with this, as it is soon to release *MiG-29M SuperFulcrum* for the ST, a flight sim featuring the all-new Soviet fighter aircraft (as revealed first in *Express* way back in issue 131).

The aircraft includes many more futuristic details than its predecessor:

- Its engine power, manoeuvrability and aerodynamics have all been improved, thanks to a redesigned body.
- The analogue-style instruments in the cockpit have been replaced with a video display and an enhanced HUD (Head Up Display).
- The game features a different scenario.

Rather than flying many separate missions, you take part in a large scale war campaign set in a friendly South American country which is being menaced by a hostile neighbour (North America, perhaps?). This means that instead of having a set order in which you must carry out your tasks you have to vary your tactics according to your situation.

The graphics have undergone improvements. Now there are fractal landscapes with plenty of terrain detail, a shaded horizon and 3-D objects for the buildings, bridges, trains and tanks. The enemy is more intelligent this time around; it'll use AWACS spy planes, anti-aircraft tanks, SAM sites and helicopter gunships to blow you out of the sky.

MiG-29 SuperFulcrum is due at the end of the month, priced at a staggering £39.99 (though if you think that's bad, just remember that PC owners have to pay £45!).

A CLASSIC RETURNS

Also on its way is *Super Space Invaders*. It seems incredible but it was 13 years ago that *Space Invaders* first showed its bulky self in pubs and arcades up and down the country, bringing video games into the lives of the masses (that's you and me). Domark is intent on bringing the game back, but bigger, better and with a much longer title.

Super Space Invaders borrows elements from *Phoenix*, *Gorf* and *Galaxian*. As well as the usual plodding rows of aliens, there'll be multi-way scrolling playfields, waves of aliens, huge end-of-level guardians and bonus levels, together with power-ups such as a HyperLaser and Time Stop feature, which freezes everything but you.

SSI (as it's not known) is on course for release in October, priced £24.99. Pity they couldn't have kept the old prices, too.

☎ Domark is on 081 780 2224.

BACK IN 1992...

Everyone's had the feeling, at one time or another, that the music charts are rigged, but few people would argue that the same applies to the software charts.

After all, there is much less vested interest in the sale of software than there is in the sale of singles or albums. But charts are at the best of times only a rough indicator of the nation's current tastes and occasionally something goes awry with ridiculous effects.

For instance, in a recent Gallup chart of full-price software for the ST, *Railroad Tycoon* and *Manchester United Europe* were both shown as being in the top twenty. This must have come as a surprise to Microprose and Krisalis, the games' respective publishers, as neither game had yet been released; indeed, the ST version of *Railroad Tycoon* is still being completed.

After some umming and ahhing, the companies gave the explanation that the barcodes on the PC version of the games were being confused for the ST version, and thus the sales were clocking up. This explanation is similar to that given by CDS when *Steve Davis' World Snooker* mysteriously appeared in the full-price chart when it was being sold for a budget price.

These explanations are probably taken to be reasonable by most ST owners. Nevertheless, there are undoubtedly other people who wonder if there isn't more behind these slip-ups than meets the eye, perhaps involving corruption in high(ish) places. I do not, of course, number myself among this group (remember, libel is a serious charge).

If there is nothing more behind these anomalies than faulty barcodes, surely the barcode system, in whichever form it's used, should be scrutinised and the necessary improvements made to it. If the software companies themselves don't know when something is wrong, how are we to know that any of the games in the charts belong there at all?

Ed Ricketts

Ed Ricketts is games reviewer on ST Format, *the biggest and best magazine dedicated to the Atari ST. And it comes out monthly, too.*

PREDICTABLE FARE AT THE ATARI FAIR

This year's Atari Fair at Dusseldorf presented no real surprises. The TT and the Mega STE were well to the fore, with the main stand featuring 20 partially networked machines and TT systems running the Unix operating system.

The STPad (or whatever Atari has changed its name to this week), the ST-compatible 'notebook' on whose screen you can write just as you would on a piece of paper, was being shown off.

There was also a complete demonstration of how a printer-ready copy of a magazine is put together, using the DTP systems available for the ST (*Calamus* in particular, the show being German). It took the process from original layouts to four-colour separations using a Linotype/Hell Pre-Press System – a similar machine to the one on which all Future Publishing's magazines are produced.

Possibly the most interesting item was composer Ratko Delorko's performance of excerpts from the world's first electronically-controlled opera, *Die Ey*. Delorko uses his ST and the sequencing package *Notator* to feed the music for his opera to a synthetic sound generator, which in turn is transferred to the resonance board of a grand piano by means of the Audio Forte System, from the German company Schimmel.

He then conducts the singers and accompanies them on the grand piano. As a system, it sounds convoluted and unnecessary, but it does show just what can be achieved with an ST, and perhaps even points the way for future large-scale performances.

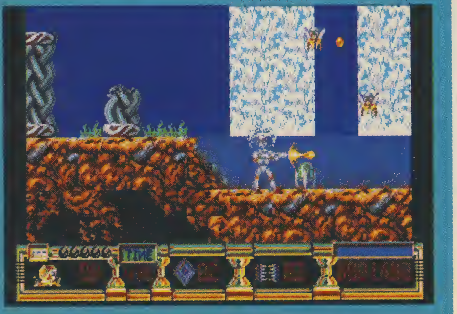
• Atari was keen to show off its much heralded notebook at the German show

HITCHHIKER'S GUIDE TO TURRICAN 2

A handy tip for *Turrican 2*, from Rainbow Arts.

Enter the music menu by pressing Space at the title screen. Select the first option, Intro Sounds/Music, and type 42.

Incidentally, did you know *Turrican 2* contains a intro sequence? Let the title sequence, which presents the various weapons, run through twice. The intro sequence will then load.



• *Turrican 2* – It actually contains a title sequence but you need to know where to look

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ARCADE ACTION GAMES PACK

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Drivin' Force - *By Digital Magic*	£24.95
Live & Let Die - *By Elite*	£19.99
Onslaught - *By Hewson*	£24.99
Pipe Mania - *By Empire Software*	£24.99
Rick Dangerous - *By Firebird*	£24.99
Rock 'n' Roll - *By Rainbow Arts*	£19.99
Skweek - *By US Gold*	£19.99
Trivial Pursuit - *By Domark*	£19.95
ART PACKAGE - £89.95:	
Photon Paint 2.0 - *By MicroIllusions*	£89.95
TOTAL RRP:	£319.73

FREE! WORTH NEARLY: **£320**

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PC

- **The programming language war set to hot up as Symantec buys up Zortech**
- **Wordstar gets in on the Windows act**
- **Sneak Preview of *Monkey Island 2***

Mergers, buy-outs... will they never end? Symantec, not content with having Norton under its wing, has recently acquired Zortech, producer of C++ compilers for DOS, Windows, OS/2, Macintosh, and Unix. Without even waiting for the dust to settle, Symantec also announced Zortech C++ 3.0 for DOS, Windows, and OS/2.

"Other compilers don't have the capacity to handle our development. Zortech's compiler is head and shoulders above the competition," said Gordon Eubanks, president and chief executive officer of Symantec, which has been using the C++ compiler internally.

The new C++ release is available in three configurations:

- Zortech C++ for Windows 3.0, a £249.95 16-bit compiler for DOS and Windows.
- The £99.95 Zortech C++ Developer's Edition 3.0, which includes the Zortech 386 DOS extender and support for Windows and OS/2 1.x.
- The £599.95 Zortech C++ Science and Engineering Edition 3.0, which simplifies numerical computing.

Industry comment on the acquisition was positive:

"Symantec's acquisition of Zortech heats up the language battle with a third serious player," said Esther Dyson, editor of the New York-based *Release 1.0* industry newsletter.

"Zortech C++ is faster and more sophisticated than Borland C++," said Bobby Orbach, president of the consulting firm Orbach Inc, in New York. "Zortech gives Symantec a highly technical language and a good market share."

☎ Contact Symantec on 0628 777677.

VENTURA BUNDLE

Ventura Software will bundle Adobe *Type Manager* with its upcoming Ventura *Publisher* 4.0 for Windows desktop publisher.

☎ Call 0101 800 822 8221.

C++ PLUS

Borland has launched a number of new bundles in the US including two to accompany its successful C++ product.

- Turbo C++ & Turbo Vision, which combines version 1.0 of Borland's DOS-based C++ compiler and integrated development environment with its application framework. The package costs $199.95. Other class objects provided include an editor, calendar, and a calculator.
- *Resource Workshop* is an integrated, visual tool for developing Windows resources such as icons, dialogue boxes, bit maps and fonts without programming.

The $49.95 package also includes a set of custom dialogues that Borland uses in its own products. These include three-dimensional radio buttons, check boxes with a chiselled-steel appearance, push buttons that can include bit-map graphics and text, and dialogue boxes that appear to stand out from the screen.

- *Borland C++ & Application Frameworks* contains the company's C++ compiler for DOS and Windows, as well as Windows and DOS application frameworks.

The $695 bundle includes C++ versions of *ObjectWindows* for Windows and *Turbo Vision* for DOS – both class libraries for creating user interfaces in Windows and DOS, respectively.

Full source code for both class libraries is also included. UK prices were unavailable going to press but all the products should be available now.

Borland are on 0734 320022.

WORDSTAR WINDOWS

Apparently, WordStar International delivered beta versions of its Windows word processor to testers late last month.

Many current WordStar users will want to make the switch to Windows, according to Dan Ness, a microcomputer industry analyst at Computer Intelligence, a market research firm in La Jolla, California.

"This gets closer to [WordStar's DOS product] than any other Windows word processor, including *Word* and *WordPerfect*," he said. The established customer base, "is the gold mine for *WordStar*, but it will be tough. They need to do something like this to get the attention of the market again.

"*WordStar for Windows* has a good interface, an extended feature set, and is easier to use than WordStar 2000," said Ness.

WordStar for Windows will also let you perform layout tasks such as importing graphics and text

☎ Contact Wordstar International on 081-643 8866.

SOUPED-UP SUPERCALC

Version 5.1 of Computer Associate's *Supercalc* has, reportedly, undergone significant improvements in the speed of formula evaluation and computational logic. Resident memory is, apparently, more efficiently utilised and expanded memory overhead is reduced.

CA-SuperCalc 5.1's user interface can be tailored with a choice of several colour schemes and the viewing area can be expanded to show 132 columns on-screen. Version 5.1 is also capable of unlocking all spreadsheet files on a network at once. Three-dimensional spreadsheet formatting enhancements let menu commands, including database functions, be applied to multi-page spreadsheets.

Details on pricing and availability was not available at press time.

☎ Computer Associates is 0101 516 227-3300.

DOS 5 CORNER

What on earth is going on when you load *SMARTDRIVE.SYS* and then get the message "Incompatible disk partition selected"?

If your system includes a third party disk partition and you try to use *SMARTDRIVE*, you may receive an error message. You can force *SMARTDRIVE* to load by specifying the /p switch.

However, doing so may corrupt your hard disk if it contains more than 1024 cylinders or is not supported by the system's ROM BIOS in which cases avoid *SMARTDRIVE*.

NORTON UPGRADE

Norton Utilities 6.01, a maintenance update for "all known and verifiable problems" in 6.0, is shipping free to registered 6.0 users; no phone call is necessary to upgrade.

According to Symantec some reported bugs were system specific or involved aspects beyond *Norton Utilities*' intended capabilities.

☎ Call Symantec on 0628 777677.

Paul Rigby

LE CHUCK RETURNS FOR A BIT MORE MONKEY BUSINESS

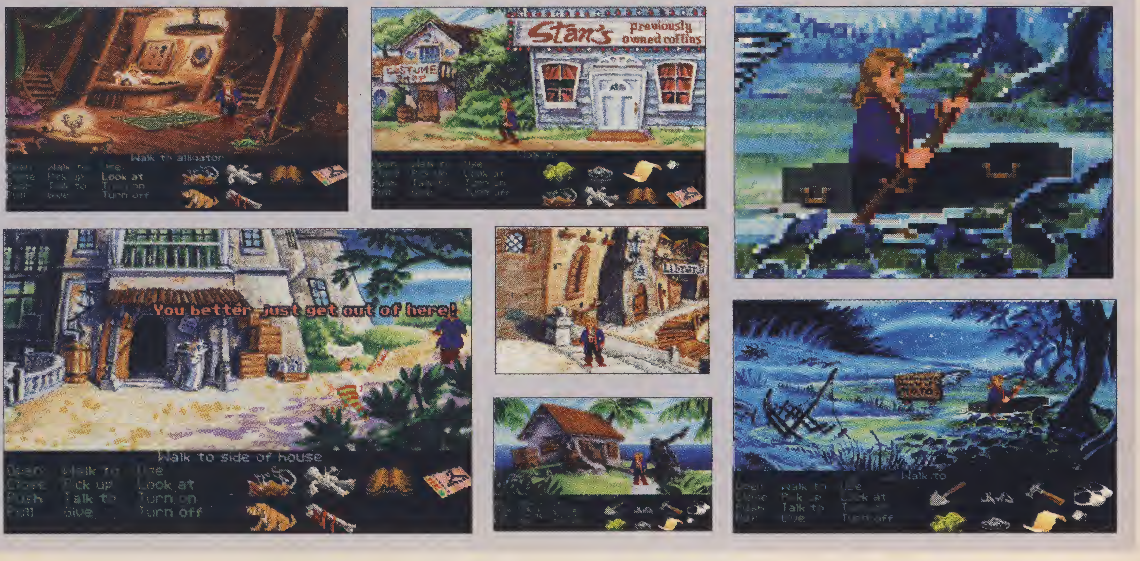
One of the most hilarious games of the past year has spawned a sequel.

Lucasfilm's *Monkey Island 2 – Le Chuck's Revenge* sees the return of our hero Guybrush Threepwood.

In the original Guybrush was well rid of Le Chuck. However, Le Chuck's brother is now out for revenge.

Monkey Island 2 promises to serve up plenty more humour, the return of many of the original characters (Stan, Governor Marley, etc) and wonderful VGA, 256-colour graphics.

Out and about, via US Gold, on the PC in November, *Monkey Island 2* will support all popular sound boards.



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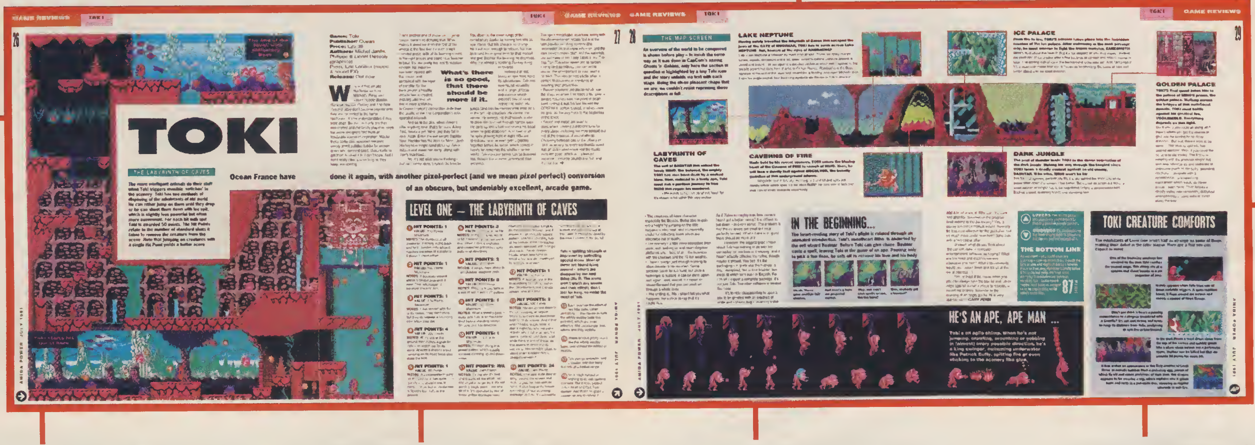

TOKI

Ocean France have done it again, with another pixel-perfect (and we mean pixel perfect) conversion of an obscure, but undeniably excellent, arcade game.

What's there is so good, that there should be more if it.

LEVEL ONE – THE LABYRINTH OF CAVES

THE MAP SCREEN

LAKE NEPTUNE

ICE PALACE

GOLDEN PALACE

LABYRINTH OF CAVES

CAVERNS OF FIRE

DARK JUNGLE

IN THE BEGINNING...

HE'S AN APE, APE MAN ...

TOKI CREATURE COMFORTS

THE BOTTOM LINE

The Bottom Line – quite simply, the clearest, toughest scoring system yet devised.

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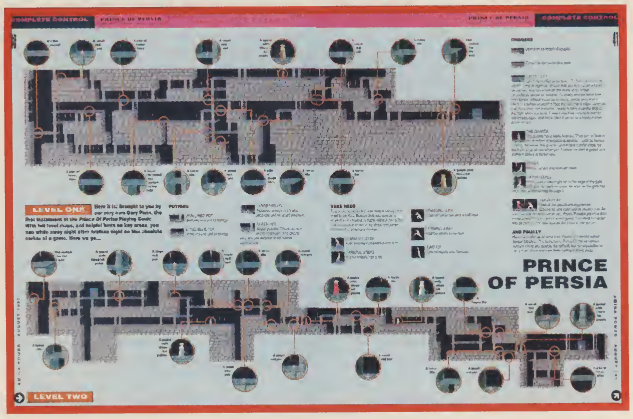
All is revealed – from each baddy's hit points to how much you'll earn if you kill him...

...while boxes, panels and annotated screens explain all the details.

Large size paper (the same as this new look Amiga Format) gives games more room to breath!



COMPLETE CONTROL

PRINCE OF PERSIA

LEVEL ONE

LEVEL TWO

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- And, of course, all our hero's abilities made crystal clear.

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THE PD COLUMN

According to James Leach – everybody's doing it – big PD games compendiums, that is. So this week get your joystick into gear for great gameplay on the latest games up for grabs

Everybody seems to be doing big games compendiums at the moment. I'm not complaining; anything that could keep the kids quiet over the holiday has to be a good thing, especially if it's as cheap as Public Domain.

One such disk packed full of goodies is ***Games Galore Vol. 8*** from 17-Bit Software. It's available for the trusty Commodore Amiga and contains no less than seven different programs all designed to keep you occupied while you wait for something important to happen in your life.

The first game is called ***Space Wars***. Yes, with a name like that it's got to be good. ***Space Wars*** is, shall we say, reminiscent of ***Asteroids***, ***Blasteroids*** or any other game which sees you skating around the screen in zero gravity using your woefully inadequate thrusters to get you closer to the enemy. For this is what ***Space Wars*** is all about. You and a friend blast around, trying to shoot each other whiles at the same time, steering clear of each other.

Making things a lot harder and altogether more interesting are a couple of heavenly bodies which have their own gravity. So you must contend with being sucked into the planets (or suns or whatever they are) as well as the combat. If you're clever you can learn to slingshot your way around these planets, thus bouncing yourself to parts of the screen your partner didn't expect.

ALIENS STRIKE BACK

Another feature of ***Space Wars*** not commonly seen on games of that ilk is the inclusion of communications software. Yes, it's possible to link your Amiga to someone else's either by a cable between them or across the phone lines using modems.

Space Wars is not an earth-shattering game (pun intended) but it's a lot of fun and the large range of options (you can, for example, alter the gravitational strengths of the planets) adds a fair bit to the life expectancy of the program.

• Tiny sprite blasting with *Space Wars* on the Amiga

BOMBS AWAY!

Another classic arcade standby is on ***Games Galore Vol 8***. It's ***Missile Command***. The scenario is simple. Someone is firing Inter Continental Ballistic Missiles at your cities (it can't be the Russians, not now). You must position the crosshairs of the mouse in the path of these missiles and explode big balls of, er, plasma. If the missiles hit these they are terminated. The difficulty (and the fun) arises when the missiles speed in from all directions, forcing you to scoot across the screen perpetually trying to catch them. If any get through and hit your cities, chilling mushroom clouds sprout up. Lose all your cities and it's game over.

You only have a limited number of these exploding plasma balls, so you must learn to intercept the missiles in such a way that you take out several with each blast. ***Missile Command*** has been around almost as long as computers with mice, and it's still great fun today.

TRIP OF A LIFETIME

17-Bit has included a puzzle game on its compilation as well. ***Tripppin*** (sic) is an idea I haven't encountered before. A board is set up with two different coloured pawns of and two 'home squares'. The plan is to move your pawn on to its home. But each square has

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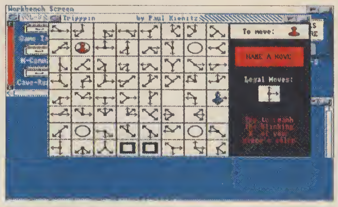
arrows on it which indicate the possible directions you're allowed to take, forcing you to go in a roundabout route to get to the home square.

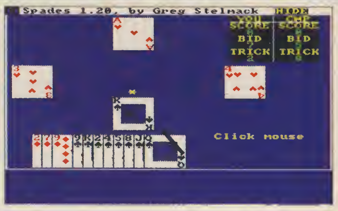
It sounds complicated and tedious, but when you get into it, ***Tripppin*** is rather engrossing. One thing I wasn't sure about, however, was whether the directional arrows were random every turn. Sometimes it was all rather too easy, either for the computer or myself.

Not a game as such, but included on the disk because 17-Bit knows exactly what sort of people buy its PD is a program called ***Game Tamer***. It contains hints, tips and cheats on 183 of the best games around at the moment (that's all of them, by my reckoning). It's as up-to-date as possible, with such games as ***Viz, Monty Python, Starglider 2, Turrican 2*** and dozens more. It's almost as useful as buying the very reasonably priced Amiga Format Gamebusters book.



• Get your pawns out on the Amiga with *Tripppin*

Also on the ***Games Galore*** volume is ***Cave Runner***. It's really ***Boulderdash*** by another name, but it's a lovely implementation of the old classic. You are a cute character wandering around a sort of vertical maze where, as you disrupt the soil you're walking through, large stones crash down in your wake. The idea is to collect gems in the caves, whilst taking routes which don't let the stones fall upon you. It's a real lateral-thinking-type puzzler, and also has bright graphics, an impressive turn of speed and super sound effects. But be warned; it's very tricky indeed.



• A quick game of cards with *Spade* for the Amiga

ONE MAN GAME

If you're a patient sort of person you might be into solitary card-games. ***Spades***, the next game on the compendium is just that. I found the rules a bit tricky to grasp, but generally the idea is to outbid the three computer players by laying down tricks of cards of greater points value than theirs. Hmm. I'm not too sure about this one.

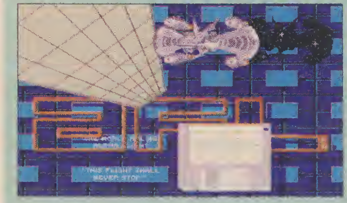
Finally there's an adventure game on ***Games Galore Volume 8***. It's called ***Colossal Cave*** and sees you in an, er, ***Colossal Cave*** with only the barest essentials to help you get out. The game features speech (Amiga-style, obviously) which is a novelty you'll soon be glad you can turn off. It's quick, it's fun and it isn't too large.

A BURP BY ANY OTHER NAME

If you'd like a bit of weirdness, Strictly PD has got an Amiga disk which has various

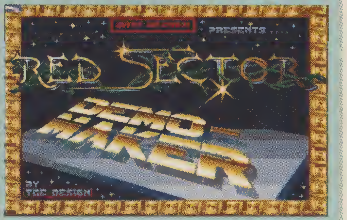
BATTLE OF THE DEMO CREATORS

Strictly PD is a Bristol based outfit catering for the Amiga. Two of the disks currently available from it contain Demo creation programs. Never having created a demo before, and curious as to why Strictly PD should be distributing two programs that do exactly the same thing, I pitted one against the other.



• *Professional Demo Creator* is responsible for this

The first program is *Professional Demo Creator v1.1*. This has a lot of info to wade through before you get to start work on a demo, but everything is laid out under headings so you learn as you scroll. First it takes you through colours, then shapes, then movement. After that comes soundtrack info. Basically the upshot is that you won't be able just to whack out a decent demo by following these points. You'll need to have done a lot of groundwork on graphics and music before your creations start to look presentable. The demo sequence at the start of the program was done using *Professional Demo Creator* but looked as competent as any I've seen. The lack of any real movement (just the colours shifted) was the only giveaway.



• *Red Sector Demo Creator,* however, did this

Next comes the *Red Sector Demo Creator*. This little number sets out to do exactly what *Professional Demo Creator* does. However, I found its instructions not as clear, and the actual mechanics were difficult to get to grips with. Personally I'd plump for the *Professional Demo Creator*.

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samples which fall into two categories. One goes under the, erm, interesting title *War*, and when you tap any of the function keys, you bring forth the sounds of jet fighters, machine guns and various missiles and rocketry.

The other program is categorised as *Sickness*. Here you can muster the noises of people coughing, wheezing, burping, vomiting and even worse. The basic (and I do mean basic) idea is that you telephone your boss if you don't want to go to work, and place the category of your choice down the phone at him. He'll be concerned either about your welfare whichever set of sounds he hears, and will grant you the day off. Nice going, Strictly PD.

DAY BY DAY

For the ST, The South West Software Library has got a rather nice utility. It's a *Calendar* which takes the form of an accessory. It runs off the system clock and allows you to type in events for any day in the future. On the day, it alerts you with the message you previously input. It also acts as a useful general calendar display as well. Probably at its most useful on a hard-drive, *Calendar* is the sort of utility you'll come to rely on.

THINGS THAT MAKE YOU GO HMM

The Caledonia PDL has been busy with ST PD recently. From it comes a *Things Not To Do Demo*, which takes graphics and sprites 'borrowed' from commercial software and uses them to demonstrate how not to lose at Karate by cheating and how not to get seriously hurt whilst engaging in dangerous combat. It's pretty funny and worth a look.

• *Things Not To Do* on the ST. Gory, but fun

On a more sensible note, *Financier* from Caledonia is an accounts package that is powerful, flexible and easy to use. Basically it keeps track of credit cards, store cards and direct debits. You can examine your past record at keeping up payments or can simply watch the totals add up as you go on ill-advised spending sprees. Either way, *Financier* won't necessarily keep a tight rein over your dosh, but will certainly make you aware of the fact that you're doing a BCCI.

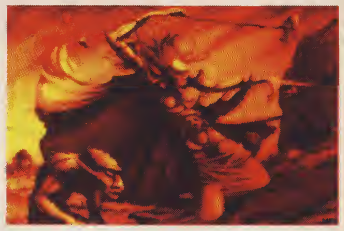
• On the ST, *Companion* is a fast and none-too-easy shoot-em-up

Companion is a Xenon-style blast-em-up from Caledonia of the sort which gets you hooked. Don't be put off by its rather diminutive graphics; the game is smooth, fast and hard enough to keep you coming back for that extra go. Just don't bother trying to play it on a TV with a modulator.

SWANKY MAGGIE

Maggie 5 has absolutely nothing to do with our beloved (ex) Prime Minister. It's actually a magazine on a disk for the ST. There are several of these around, but the *Maggie* series is worthy of note because it crams over 1.3 Mb of picture data alone on to each disk.

Produced by Michael Schlüssler, it contains over 20 reviews of the latest software (each review is about two screens' worth of text), hardware reviews, software utility reviews, very pleasant artwork (as shown here), the Charts, reports from all the recent shows that mattered, Public Domain demos and info, music and the odd interview with 'industry figures' – meaning midnight programmers the rest of the world has never heard of. There's a hell of a lot of data on the *Maggie* disks and it's all linked together in a rather stylish way, using a swanked up version of the ST desktop. plenty to be getting on with.



• Some of the spiffy artwork on *Maggie 5* for the ST

WANTED – YOUR PD

If you run a PD library and you want The PD Column to review your software, please send it in. Whether your programs fall into the categories of utilities, serious applications, games or demos, please send them in.

Just remember to say who you are, what's on the disk(s), how it works (the more written info you can include, the better) and what computer it's for. Send it all in to James Leach's PD Column, New Computer Express, 30 Monmouth St, Bath, Avon BA1 2BW.

OLD CROANER

A letter from Mr W E Croan of Tyne and Wear has brought to my attention the grammar one must employ in this column when dealing with the Public Domain. For example, says Mr Croan, to say that Nightshift PD has *produced* a pop quiz called *Popeyed* (see Column 145) is incorrect. In fact they merely supply the game. Point taken, but then who did produce *Popeyed*? None other than Mr WE Croan. ■

Rubysoft

RUBY CHARTBUSTERS

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Toki Goes Wild	18.50	18.50
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War Zone	N.A	18.50
Wrath of the Demon	21.50	21.50

Please note: Some titles not released at press date despatched within 24hrs of release subject to availability.
N.A. = Not yet available

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California Games	8.99	8.99
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Sword of Sodan	N.A	7.99
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Dungeon Master	15.50	N.A
Dungeon Master Editor	N.A	8.50
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Flight Sim 2	N.A	25.50
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A.M.A.S.	N.A	79.95
A.M.O.S.	N.A	32.99
A.M.O.S. 3D	N.A	24.99
A.M.O.S. Compiler	N.A	21.50
Deluxe Paint 2	45.50	N.A
Deluxe Paint 3	N.A	60.50
Deluxe Paint 4	N.A	N.A
Deluxe Print 2	N.A	35.50
Digi Paint 3	N.A	60.50
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S.T.O.S. Maestro Plus	53.50	N.A
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PD LIBRARIES A-Z

You've read the column, so now you want to know where you can get hold of such wondrous and, of course, cheap software. That's where the new lean, mean *Express* PD library listing steps in to help you out

8-BIT PUBLIC DOMAIN – Spectrum, BBC, Amstrad CPC and ZX81 public domain software. Send stamp and 10p for list. Public Domain, 1 Northolme Close, Grays, Essex, RM16 2NX.
17-BIT SOFTWARE – PO Box 97, Wakefield, West Yorks WF1 1XX. Tel: 0924 366982.
ADES PD LIBRARY – Where all PD is less than £1. Some free. Send SAE for great details. Address 15 Deanes Close Dovercourt Essex C012 4SH.
ADPD – For the cheapest Amiga PD around, some even free. Send SAE for details or disk for lists. 15 Deanes Close, Dovercourt, Essex CO12 4JH.
ADVANTAGE – 54 Bath Road, Cheltenham, GL53 7HJ. Tel: 0242 224340.
AKORE SHAREWARE – 7 Fishergate Point, Lower Parliament Street, Nottingham NG1 1GD. Tel: 0800 252221.
AMIGA ANSWERS – The first intergrated programmers PD library and problem solbin service £1.50 for catalogue and invaluble programmers utility disk. Amiga Answers, 11 Mill Hill Road, Norwich.
AMIGA NON-RIP OFF PD – For good Demos send disks, return postage to Mark, 50 Victoria Avenue, Sleaford, Lincolnshire NG34 7LN. Most demos: not allowed in profitable libraries.
AMIGA PD BREAKTHROUGH – you've tried the rest, now try the best! PD from 18p per disk. Swift dispatch of all orders. Contact Darryl, 12 Kent Avenue, Ross-on-Wye, HFDS HR9 5AQ, NOW!!
AMIGANUTS UNITED – 169 Dale Valley Road, Hollybrook, Southampton SO1 6QX.
AMOS PD – 0942 495261.
ANDRIKKOS PC LIBRARY – PC Megapack: 14Mb of highly compacted Shareware, £16 only. Cheque/PO (or SAE for list) to: Andy Kyriacou, 17 Parkhurst Road, London, N22 4JQ.
ANGLO AMERICAN SHAREWARE – £1 a disk. Over 2,000Mb of top anglo-american titles. Send two first class stamps for menu driven catalogue disk to 37 Deven Place, Newport, Gwent. Tel 0633 259847.
ARCH ANGEL PD – Over 230 disks of Archimedes software. Send 75p for catalogue/demo disk to 9 Chancel Court, Pinhoe, Exeter, EX4 8QE.
ARCH PD – Over 200 disks of Archimedes PD. SEnd £1 or SAE and disk to Arch, PO 109, Ferry Road, Hullbridge, Essex, S55 6EL.
ATARI ST PD – software to swap. Send SAE plus disk to 29 King George's Road Bishopsworth, Bristol or tel 0272 640217.
BASOFT PD – Original PD plus the best of the rest. SAE to BASOFT, 357 Church Road, Basildon, Essex SS14 2EV. £1 per disk. New disk catalogue in exchange for blank disk.
BEGINNERS' PD – ST PD starter disks. Two available. Over ten programs. £3 the lot. Write tio James Thoroughgood, 114 Sandrigham Way, Frimley, Surrey, GU16 5YF. Also send suitable SAE.No cheques.
BBB (BIG BAD BRIAN'S) PD library. 3.5-inch only from £1. Send formatted disk and SAE for catalogue to BBB, 35 Grangeside Ave, Hull HU6 8LP.
BENETECH – PC PD. 21 Loughborough Road, Leicester, LE4 5JL.
BOOT UP PUBLIC DOMAIN – Amiga Public Domain. Only £1 per disk Send 75p for catalogue disk to Carol Wellington, 30 Sunnings Lane, Upminster, Essex RM14 2DQ.
BUDGIE UK – 5 Minster Close, Rayleigh, Essex SS6 8SF
BURMAN'S PD – Amiga PD for 40p. For a catalogue on disk, a few demos and a game send a stamp and disk to Burman's PD, 41 Pinner Park Gardens, Harrow, Middlesex, MA2 6LQ
BYTEBACK – 6 Mumby Close, Newark, Notts NG24 1JE. Tel: 0636 79097.
C HACK'S PD LIBRARY – Captain Hack's PDL. ST Demos/Adult. Free disk catalogue; Blankie 60p plus SAE to 19 Latimer Drive, Laindon, Basildon, Essex. Tel: 0268 416 888.
CALEDONIA PDL – 250 Oldtown Road, Hilton, Inverness IV2 4PT. Tel: 0463 225736.
CAPRICORN COMPUTERS – 35 Warwick Road, Olton, Solihull, West Midlands B92 7HS.
CHEZRON SOFTWARE – 605 Loughborough Road, Birstall, Leicester LE4 4NJ.
CHRISTIAN COMPUTER CONCEPTS – Christian PD and Shareware. 5.25-inch only. Ian Hurst, 7 Perrybrook Walk, Ashton in Makerfield, Wigan WN4 8TR.
CIRCULAR PD LIBRARY – 14 Morrison Drive, Lennoxtown, Glasgow G65 7BA
CLYDESIDE SHAREWARE – 900 megs to choose from!!! Clydeside Shareware PD and Shareware for PCs from £1.50 for a full disk. Write to Ian Tweedie, 50 Ottoline Drive, Troon KA10 7AW. Tel: 0292 313312.
DB SOFT – IBM Shareware. 29 Birchwood Drive, Ravenshead, Notts NG15 9EE.
DELUXE AMIGA – Exclusive review of Terminator 2 inside issue 1. Send a £1 cheque/PO to Antony Grace, 2, Furzefield Crescent, Reigate, Surrey RHZ 7HQ.
THE DISK – Stephen Lord, 6 Stubbington Brink, Hebden Bridge, West Yorkshire HX7 6LR.

ENTERING THE DOMAIN

New libraries are opening up every week, and *Express* is the best way to tell the world that you have arrived on the scene. If you want to included in the list fill in the form on page 49. For the first week your entry will be highlighted in this 'new entries' box, and from then on included in the main listing.

Also, since there tends to be a very quick turnaround of PD libraries, and we need to keep this listing as up to date and essential as possible, entries will only be included in the listing for eight weeks, after which time they will be removed. If your library is already in the listing, and you want to keep it there, just send in the form on page 49 to tell us that you're still operating.

- **REAL PD** – Amiga PD libraries – wanna join real PD? For more info write to Mark, 50 Victoria Avenue, Sleaford, Lincolnshire NG34 7CN.
- **DISCOVERY PD** – Coming soon. For the Atari ST. Wide selection and excellent after sales help. Disks £1-1.50. Disk catalogue 50p. Write to j Thoroughgood, 114 Sandringham Way, Frimley, Surrey GU76
- **DELTA C64/128 PUBLIC DOMIAN** – Send SAE for details to Delta PD, 39 Station Road, Claydon, Ipswich, Suffolk IP6 OHS.
- **BROADSWORD PUBLIC DOMAIN** – Atari ST PD. 70p per disk. Send disk plus SAE to Flat 4, Moreton Court, 212 Dover Road, Walmer, Deal, Kent CT14 7NB. Over 350 disks.
- **MONSTER CABLE** – Free ST PD, honest! Just the price of a stamp. Puts all others ST PD libraries to shame. Send SAE for more info to M Sandhu, 25 Welbeck Road, Maidenhead, Berkshire SL6 4EB.
- **FORTISS PD** – Amiga PD. Watch the magazines for our advert or send £1 for catalogue disk to Fortiss PD, PO Box 2, Earl, Shilton, Leicester LE9 8LU.
- **CRAZY DIAMOND PD** – For the ST. Send SAE and blank disk for catalogue and free PD to Crazy Diamond, 58 Hillside Road, Sudbury, Suffolk CO10 6SA.
- **COLONIA PDL** – PD swap shop! Amiga and ST. Over 350 titles. One for one. Swap free. For list write to 4 Eastfield Street, Lincoln LN2 5ES. Enclose SAE.
- **SELECT PD** – For the ST. From 35p a disk. Send £1 coin for disk catalogue to RC Newman, 22 Hall Road, Leckinghampton, Cheltenham, Glos GL53 OHW.

DRAGON PD – Programmers wanted for Amstrad, CPC 6128 PD library. For more information, write to: Dragon Road, 415 (flat) Whitehall Road, Bristol, BS5 73P.
DYNAMIX PD – PC, Amiga and C64 Public Domain. All new and best titles. For free detals contact 132 Springwood, Llanedeyrn, Cardiff CF2 6UF. SAE appreciated.
EAST MIDLAND PUBLIC DOMAIN LIBRARY – 54 Watnall Road, Hucknall, Nottingham NG15 7LE.
ED's FREE PDL – Public Domain for the Atari ST. Send your list for mine. 1-4-1 basis. EJ Carter, 184 Hatters Lane, High Wycombe, Bucks HP13 7LY.
EDLIB – Interactive, educational and productivity compilations of PD for Amiga. £1.50. All regular PD only 89p. Graphics Master 1 and 2, graphic image manipulation PD software at only £3. Contact Edlib, Scotland Farm, Stockwood Road, Brislington, Bristol BS4 5LU.
ELMSOFT – PO Box 17, Loughton, Essex IG10 2EE.
ESSEX SHAREWARE LIBRARY – Beginners pack of the best of PC Shareware. Ten disks £14.99. Cheques/PO to Essex Shareware, 221 Branksome Avenue, Stanford-Le-Hope, Essex.
FREAKS PUBLIC DOMAIN LIBRARY – Disks filled with programs of your choice from a huge range. Ribbons re-inked, recycled packaging, send stamp for catalogue to Freaks, 29 Leap Valley Crescent, Downend, Bristo; BS16 6TQ.
FREEWAY PD – For the Amiga. Loads of titles for only 99p inbcluding postage and packaging. Send disk for list. Freeway PD, 11 Elizabeth Place, Somting, Sussex BN15 9U3.
GARNER DESIGNS – Spectrum PD. 57 Lovers Walk, Dunstable, Bedfordshire LU5 4BG.
GOODMAN PDL – 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, Staffs ST3 1SW. Tel: 0782 335650.
IMG CLIP ART – GDOS fonts for sale or swap. For catalogue send blank disk plus stamped addressed envelope or £1 to E Renner, 62 Broxholme Lane, Doncaster.
JACKSON'S PD SPECTACULAR – Amiga PD. D Jackson, 22 Victoria Court, Clifton Road, Worthing, Sussex.
JAMES & JAMES PD – Atari PD from £1 disk. Bristol 668137. PD swapped and sold.
JASE PD LIBRARY – utilities, games, demos etc. Only £1.25 per disk. Write to 9 Broadfield Square, Enfield, Middx EN1 3PA for a catalogue or send £1 for catalogue disk.
JAY-DEE'S PUBLC DOMAIN SOFTWARE – Jay-Dee's PD Amiga disks only 40p each for catalogue send SAE and disk to Jay-Dee, 389 Scalby Road, Newby, Scarborough, North Yorkshire. Catalogue updated monthly.
JENNIX PD – Fast efficient and friendly service. Disks 90p each. Send 50p for a custom written cat disk to Jennix, 66 Abbey Road, Strood, Kent.
JPDL – Atari ST PD. Double sided disks supplied wherever possible. Blank disk and SAE or 70p to: J Kilner, 120 Wiggington Road, Tamworth, Staffs B79 8RW.
KEANSOFT PD – ST PD for sale. Send SAE and blank disk for copy of latest catalogue. Write to Keansoft PD, 42 Lords Croft, Clayton-Le-Woods, Nr Chorley, Lancs PR6 7TP.
KEV'S PD – Amiga PD. £1 per disk. K Larkin, 12 Hathaway Court, Cheriton Road, Gillingham, Kent ME8 0ES.
L & D PD – Amiga PD from 35p per disk. Monthly competition to win PD of your choice. Also a new digitising service is available. For info send SAE and disk to L & D PD, 10 Hornbean Green, Pontefract, West Yorks WF8 2DX.
LAPD – Worldwide reputation for quality PD for the ST. Thousands of programs available. Disk catalogue only £1.00. Credit cards accepted. Telephone 0773 605010 or 0773 761944.
LARD PD – Only 95p per disk. Amiga only. For catalogue write to Lard PD, 41 Craven Road, Hemsworth, West Yorks WF9 4SB. Enclose SAE.
LEMMING SOFT – Amiga demos to swap. over 300 disks, List keeps growing by the day also want two meg demos write to ;- John Simmons, Flat 45, 2 Silvermere Road, Sheldon, Birmingham, B26 3XA.
MASTER PD – Amiga PD to swap and sell. Send SAE and list to A Hines, 44 School Lane, Easton Bray, Bedfordshire, LU6 2DT 100 per cent reply.
MERTON PD – Cheap Atari ST PD. Send £1 or blank disk for catalogue with SAE (cheques payable to T Huq) to: 10 Grasmere Avenue, London SW19 3DX.
NEURAL IMAGES PD – Send an SAE to4, Flint Walk, Throston Grange, Hartlepool, Cleveland. TS26 DTE for your free PD Disk. No catches!
NIGHTSHIFT – 8 Bertelin Road, Beaconside, Stafford ST16 3JJ.
OWN PC CLUB 7 SHAREWARE – 73A East Street, Blandford Forum, Dorset DT11 7DX. Send blank disk plus stamp for catalogue. 25p each prog.
PAD PD AND SHAREWARE LIBRARY – For the Amiga user. Send SAE for details to: PAD Public Domain Library, 41a Saint Augustine Street, Norwich, Norfolk, NR3 3HF.
PARADISE COMPUTERS (GLOBAL) – 9 Westfiled Crescent, Brighton, East Sussex BN1 8JB.
PAWS PD – Lichfields only PD library. All disks £1 each. Swaps welcome. Send a stamped addressed envelope for list to: Anthony Cooper, 14 Purcell Ave, Lichfield, Staffs WS13 7PJ.
PROPHECY PDL – Atari ST Public Domain. Send SAE and disk or a cheque for £4.50 to Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey, CRS 1EF. We have very competitive prices.
RIVERDENE PDL – 30a School Road, Tilehurst, Reading, Berks RG3 5AN.
ROBOT PD – 2 Trent Road, Oakham, Rutland LE15 6HF.
SAINT JOHN'S SCHOOL LIBRARY PDL – Atari/ST PD software for sale or swap. Write to St John's School Library PDL, c/o Mark Ash, 54 Beaconsfield Road, Sittingbourne, Kent. ME10 3BB or telephone 0795 425653 after 4pm.
SCOTBASE PDL ASSOCIATION – Affordable Shareware for PC users. Blank disk and SAE for catalogue and details to: Rosie, 63 Springboig Road, Glasgow G32 0DB.
SHAREWARE ELITE – Over 1,300 shareware disks for PCs. Send blank disk and SAE for full catalogue to 25 Cades Parc, Helston, Cornwall. Tel: 0326 564164.
SHAREWARE KING – 3,000 items of Shareware for PC, plus support, membership, plus discounts. SAE and blank disk for details to C Smith, 10 Penwood Close, Westbury, Wilts, BA13 3LW. Tel 0373 865263.
SHIELDSOFT PD – Now from only 50p per disk. Catalogue disk 75p. For details SAE to M Daniels, 63 Churton Road, Rhyl, Clwyd LL18 3NB.
SINGER PD – 62 Manor Rd, Hastings E Sussex TN34 3LJ.
SOLENT SOFTWARE – Atari ST. 53 Rufus Gardens, Totton, Hants SO4 3TA.
THE SOURCE PD – For the Atari ST. Compacted demos disks. £1.50 each. Write to: The Source PD, 7 Shearwater Lane, Norton, Stockton, Cleveland TS20 1SH.
SOUTH WEST PD – PO Box 562, Wimbourne, Dorset BH21 2YD.
THE ST ADVENTURER'S PD LIBRARY – PD for all ST users. Adventure, more adventure and even more adventure. Catalogue disk just 50p. Write to John R Barnsley, 32 Merrivale Road, Stafford, ST17 9EB.
ST ICE PDL – Send blank disk or £1 for great catalogue with programs included. Quality disks, viruses checked. All disks £1.80 including p&p.Write to 7 ST James' Close, Kettering, Nothants NN14 5HB.
STAR PD – Atari ST PD library fast 'n' friendly! Send blank disk and SAE. for free PD and our disk-based catalogue: Star PD, 1 Solva Road, Clase, Swansea SA6 7NX.
STATE 808 PDL – Atari ST demos, art packages and soundtrackers beyond belief. Very cheaply priced. Send blank disk to: State 808, 3A Old Lanark Road, Charluke, ML8 4HW.
START COMPUTER SYSTEMS – Dept A, Barbican House, Bonnersfield, Sunderland SR6 0AA. Tel: 091-564 1400.
STRICTLY PD –11 York Place, Brandonhill, Bristol, BS1 5UT
STUPID FLOWER PD – new library for ST users. Send an SAE for a free catalogue to SFPD, 3 Read Mead, Glastonbury, Somerset BA6 8ON or call 0458 35027 and ask for Matt.
TANK PD – disks only 60p (members), 75p (non-members). Prices include p&p. Hundreds of titles. Send blank disk and SAE to: 4 Chandos Road, Redland, Bristol BS8 6PE.
TOWER TOP PDL – The Coragen Corporation, 4 Cardigan Close, Bletchley, Milton Keynes MK3 7EJ.
TRUST PD – 18 The Park, Southawram, Halifax, HX3 9QY. Tel: 0895 53521.
VENUS SHAREWARE – IBM Shareware: Amateur radio, technical, engineering, education, Windows utilities and more. Telephone 0252 837860 for your free catalogue.
WARLOCK PD CLUB – New Amiga club and library all tested and virus free (MVK 2.1). No membership fee. Tel Mark on 0582 761723. 2 Manland Avenue, Harpenden, Herts AL5.
WINDMILL SOFTWARE – Our catalogue describes programs not disks. Disks filled with your choice. SAE and 50p or disk for ST catalogue to p Raeburn, Windmill Software, 360 Windmill Road, Ealing, London W5 4UR.
WIZBIT PUBLIC DOMAIN LIBRARY – New Macintosh PD library. Disks £3 each. Around 100 disks available. Introduction pack £1 from Wizbit PD, 38 Greenbank Gardens, Edinburgh EH10 5SN.
WOODY'S PD – ST library where you choose individual progams to fill your disks. Send disk or three first class stamps for disk catalogue.
WORSOFT – Michael Andersson, Tjardalsgrand 11, 18341 TABX, Sweden.
ZEONS LAIR – Free C64 PD software send 35p stamp for details to Zeons Lair 4 Garden Close Penrith Cumbria CA11 7LD.

Remember, inclusion in this list does not mean that *Express* endorses or recommends any individual library. If you do find any that you are particularly impressed with, or, on the other hand, you think are a complete rip off, then don't hesitate to get in contact with us at *NCE*, 30 Monmouth Street, Bath, Avon BA1 2BW

Games Week

... the column your granny always warned you about!
Information, speculation, confrontation, some might even call it news...

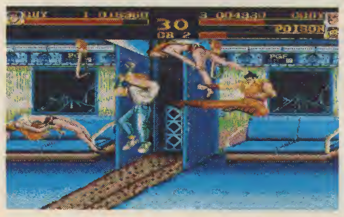
STAR RATINGS

★★★★★ = Tommy Cooper
★★★★ = David Nixon
★★★ = Georgi Markov
★★ = Paul Daniels
★ = Wayne Dobson

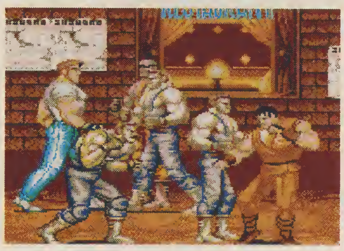
THE FINAL FIGHT?

US Gold's all-formats conversion of the CapCom coin-op *Final Fight* is practically complete, and expectations have been confounded by what's looking like an extremely accomplished job.

All versions, right down to the Spectrum, feature huge and well-animated sprites, but the Amiga version is quite stunning in its replication of the coin-op gameplay. Everything's in there, and the only flaw I could spot was a slight tendency for things to slow down a bit when lots was going on on-screen.



• The 'On board the Space Shuttle' section of Final Fight



• A group counselling session of Steroids Anonymous

The game features context-sensitive control, which makes it easy and instinctive to play, and it's easily the best example of the swarms of this type of game currently enjoying enormous arcade popularity. After a traditionally slow summer, it looks like the software business is really going to burst into life this Christmas, and this is just one of the games I expect to be right up there challenging for chart honours. Watch out for it.

THE LAST NINJA?

Also seen this week – an early version of Image Works' new hack'n'slasher *First Samurai*. Programmed by 8-bit hero Raf Cecco, it's not unlike Core's old game ***Torvak The Warrior*** in concept, but the execution is on another planet. The graphics are lovely if not earth-shattering, but the sound is nothing less than stunning. An original approach and tons of atmosphere look like making this another winner for the ever-cheerful and open-to-criticism London software giant.

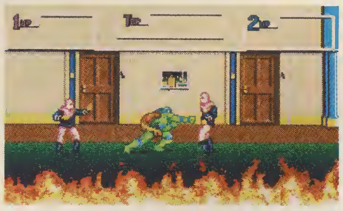
THE LAST NINJA?

...and in something of a resurgence for the Japanese warrior breed, System 3 is also gearing up for an autumn release of its fourth 'Last Ninja' game, ***Last Ninja 3*** (eh?). The game promises more of the same mix of gorgeous 3-D graphics and tricky puzzle-solving which made the previous three games (***Last Ninja, Last Ninja 2*** and ***Ninja Remix***) such a success, although some of us are praying that this time the control method will be just a little bit friendlier.

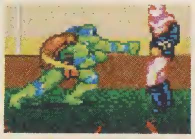
Last Ninja 3 should be out on most 16-bit and 8-bit formats in a few weeks at the usual kinds of prices.

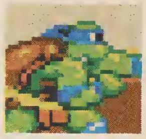
THE LAST NINJAS?

And finally (Esther), Image Works is keeping up the theme further with the imminent appearance of its conversion of the *Teenage Mutant Ninja Turtles* arcade game. After last year's atrocious-but-successful first Turtles licence, Image Works should restore its, er, image substantially with this respectable-looking beat-'em-up, although ironically, the subsidence in Turtles mania may well mean it makes less money this time round. Whatever happens, this has to be yet another very good bet indeed for the prestigious Christmas No.1 spot.



• Is Turtles 2 going to be a game to set the world on fire? Maybe.





POPULOUS

Electronic Arts • Amiga and ST

'*Populous*? But that's ancient!' Shut up. As it happens, *Populous* is about to become one of the bargains of the year with a re-release on EA's Star Performers label for just £10.99, so I'll print these world codes for it if I flipping well like.

5 SCOQUEMET
10 MORINGILL
18 HOBDIETORY
23 SADWILLOW
32 SHIDEHOLE
46 WEAVINPERT
57 QAZOUTER
65 HURTIKIENG
70 SWAHIPMET
83 BUGMPTORY
96 SHIMEICK
107 NIMIKEPIL
114 HOBEPIL
120 LOWEAT
132 CALYMAR
140 BILKOPILL

TOP 10
ALL FORMATS FULL PRICE

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	1	*Thunderhawk*	Core Design	AG
2	3	*Rainbow Collection*	Ocean	SP AM ST AG
3	2	*Man Utd Europe*	Krisalis	SP CO AM ST AG
4	4	*Hero Quest*	Gremlin	SP CO AM ST AG
5	7	*Teenage Mutant Hero Turtles*	Mirrorsoft	SP CO AM ST AG OT
6	5	*Dizzy Collection*	Codemasters	SP CO AM
7	6	*Monkey Island*	US Gold	ST AG OT
8	15	*VIZ*	Virgin	SP CO AM ST AG
9	9	*F-15 Strike Eagle 2*	Micrprose	ST AG OT
10	21	*Eye of the beholder*	US Gold	AG OT

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible SP = Spectrum
CO = Commodore 64 AM = Amstrad OT = Other.
Chart compiled by Gallup. European Leisure Software Publishers Assoc.

TRASHED AND BURNED

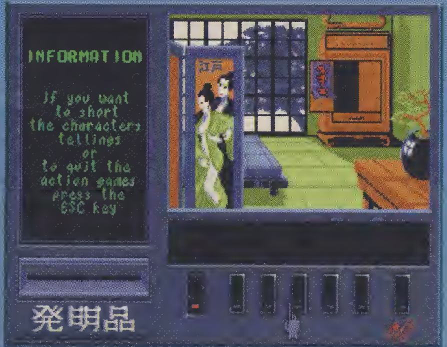
The most lamentable lump of drivel seen this week...

GEISHA • Electronic Zoo • Amiga

...in which French and Japanese cultures combine to produce a tasteful erotic adventure of sexy sub-games and erotic episodes (it says here). Unfortunately, what they end up with is a pile of Sherman and no mistake.

Geisha's various sequences include a Mastermind-style code-cracking game where every correct code results in an on-screen grope from a naked bimbo, but since the information you're given about your guesses is unhelpful and inadequate it's largely a matter of luck whether you succeed or not.

Then there's a *Lemmings*-inspired section where a naked bimbo swims along underwater collecting pearls while you blast away at enemies which she might otherwise collide with. It might work if the character responded to the controls in some way, but she has a mind of her own which makes the stage unplayable.



INFORMATION

If you want
to short
the characters
tellings
or
to quit the
action games
press the
ESC key

• Geisha - the game that's as entertaining as watching a bonsai tree grow

There's a completely pointless card-game sequence, a maze shoot-'em-up section called Penetration, and lots of other stuff that's frankly just too tedious to go into.

The whole thing is wrapped up in lazy and annoying presentation including lengthy intros that you can't skip, annoying copy protection, and a quit function that's far too easy to access accidentally. Add this to the fact that you have to reboot (and go through all the intro rigmarole) after every game, and you find yourself with a game which will be consigned to the bin within 60 minutes of purchase.

The whole thing's about as sexy as 'that' Benetton ad, and it doesn't even have the saving grace of being smuttily funny (like *Viz The Game*, for example). Really, if shabby pseudo-porn is what you want, there are better and cheaper ways to get it ('fnar fnar' – Finbarr Saunders) than this.

KOHLRABI CORNER

A new column in which I'll be taking a look at some of the wacky vegetable-related japes some top industry figures sometimes find themselves embroiled in. (This one'll run and run...) For example, did you know that the top PR guru at well-known coin-op conversion producers Domark, Clare Edgely, supplements her meagre income by baking carrot cakes and selling them to local bakeries? No, I'll bet you didn't, but it's completely true.

Express says: pay the poor girl some proper wages Domark, you old meanies!

Tune in next week for more vegetable revelations!

FOR EGG HEADS

Is there no end to it? Coming your way soon from top inexpensive software mogul Code Masters is...***Dizzy V***. The second compilation of games featuring their egg-type hero is due out in November (in an obvious attempt at the, er, Christmas No.1 spot), but this time it's a little different, as most of the games are new, unreleased efforts.

Joining ***Panic Dizzy*** and ***Kwik Snax*** (two of our ovoid chum's arcade-style games) are ***Bubble Dizzy, Dizzy Down The Rapids***, and ***Prince Of The Yolk Folk***, of which only the last named is a traditional Diz adventure. Even so, it's hard to see it being anything other than a huge hit – the name Dizzy is a bit of a licence to print money these days. ■

TOP 10 ALL FORMATS BUDGET

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	1	*New Zealand Story*	Hit Squad	SP CO AM ST AG
2	2	*Bubble Bobble*	Hit Squad	SP CO AM ST AG OT
3	4	*Cabal*	Hit Squad	SP CO AM ST AG
4	5	*Dizzy Panic*	Codemasters	SP CO AM
5	3	*Shinobi*	Mastertronic	SP CO AM ST AG OT
6	NE	*Moonwalker*	Kixx	SP CO AM ST AG OT
7	12	*Quattro skills*	Code masters	SP CO AM
8	11	*Footballer of the year*	GBH	SP CO AM ST AG
9	10	*Dragon Ninja*	Hit Squad	SP CO AM ST AG
10	6	*Magic Land Dizzy*	Codemasters	SP CO AM

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible SP = Spectrum
CO = Commodore 64 AM = Amstrad OT = Other.
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

POOR TASTE CORNER

Oh dear... Top(ish) budget software house Zeppelin is about to unleash a game under the title of *Titanic Blinky*.

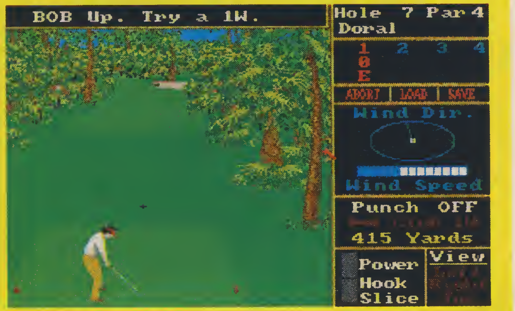
The game puts you in control of cute blobby character Blinky (last seen in *Blinky's Scary School*), who finds himself on the raised Titanic, attempting to exorcise all the ghosts of the people who died on board. Sounds, er, 'interesting'.

GRANDSTAND

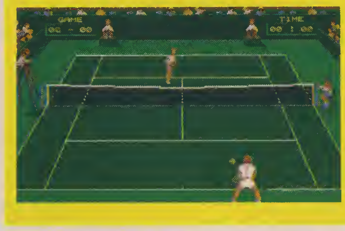
Domark • All formats • 16-bits £29.99, 8-bits £14.99 ★ ★

This is a collection billing itself as 'The Ultimate In Sports Compilations'. The contents (*Gazza's Super Soccer, Pro Tennis Tour, Continental Circus* and *World Class Leaderboard*) would seem to belie such a claim, but I suppose it's technically true for as long as it takes for another sports compilation to be released, so we'll let it go for now.

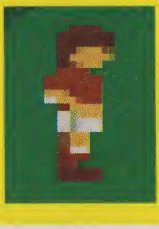
Individually the games range from the excellent (*World Class Leaderboard*) to the execrable (*Gazza's 'Super' Soccer*), with the other two falling in between (with *Continental Circus* being marginally the superior of the pair). The collection does provide a wide spectrum of styles, but with the two best games available individually on budget labels, you'd only be advised to fork out for this box if you're the world's biggest (not to mention saddest) Gazza fan.



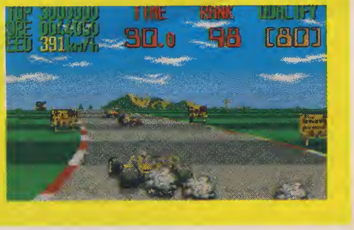
• The great...



• FAR LEFT ...and the bad...



• LEFT ...and the extremely ugly.



• RIGHT ...and the good...

MAGIC POCKETS

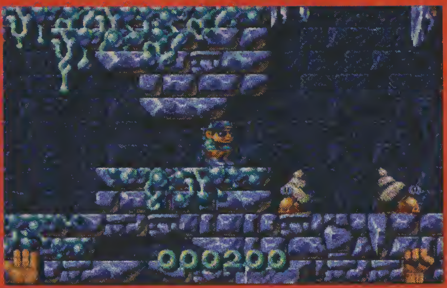
Renegade • Amiga, ST • £25.99 ★ ★

'Hi, I'm Edison Carter, and what I want to know is...' 16-bit games fans have been waiting with bated breath for this game for so long now that several hundred of them have died of suffocation. The promised excursion into cutie arcade platform game territory from the legendary Bitmap Brothers has been the subject of more breathless speculation and hype than any other game I can remember and now, at last, it's ready. And it's incredible. Not incredibly good, though...

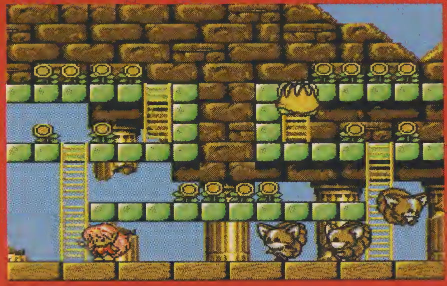
Magic Pockets is a game which is bursting at the seams with gorgeous graphics, nice touches, clever gameplay ideas and attention to detail. It's also one of the dullest games I've ever encountered on a 16-bit machine (or any other kind for that matter), and I've played some real doozies. The programming is practically flawless, but somewhere along the line the Bitmaps have failed to spot that there *just isn't a game in here!*

Magic Pockets promised to be the Bitmaps' answer to *Rainbow Islands*, but it's just *Gods* in baseball boots. *Gods* at least had a feel that fitted the storyline, but if the Bitmaps think this is what a cute arcade game looks like then there's clearly a page missing under 'C' in their dictionary. They haven't been able to resist packing this game with their trademark metallic graphics, and it's given the game a look that's as much in keeping with it's professed style as *Shadow Of The Beast* would have had with Tiki the kiwi from *New Zealand Story* as the main character.

When you get into the gameplay, what you find is something which reminded me of nothing so much as Gremlin's dire *Impossamole*. Slow, trudging movement and baddies which have to be shot several times before they die don't make for an action-packed thrill-a-minute arcade game, especially when half the time the baddies can't actually reach you to do you any harm. This leaves the Bitmap Kid (the hero of the game) standing around for long periods, lobbing missiles at a trapped enemy with the joystick on autofire and the mind of the player on what's for dinner, or what's on TV later, or why the hell he's sitting here putting up with such utter tedium.



• Is it any coincidence that one of the most predominant enemies in Magic Pockets is the snail? I think not...



• And here's a *real* cute platform arcade game we prepared earlier

Progressing on through the levels, nothing much changes except that the levels become bigger and more unfocussed, with devious gameplay design replaced by ever-increasing numbers of harder-to-kill baddies. Later worlds are full of clever little features (raining clouds, growing plants, Speedball helmets, etc) designed to make players go 'Ooh, that's clever' and distract them from the hopelessly hackneyed design and boring, boring, boring gameplay.

The fact is, if this game came from some crappy European software house and didn't have the strikingly cute graphics, it would receive a deserved pasting all round and sink into obscurity faster than the deely bopper (remember those?). But no, it's from the Bros and it looks pretty so it's the best game in the world. In a few weeks' time game players all over the country will be sitting in their bedrooms with their copy of this and thinking 'Is that it? Is that what all the fuss was about?', but no-one will say anything for fear of being the little boy who noticed the King had no clothes.

Karl Marx was wrong. I know what the opium of the masses is. *Magic Pockets* will sell by the million to gullible fools with lists of tech specs instead of brains and pages of hype where their critical faculties used to be, and that depresses me more than you can imagine. Have some self-respect, and don't get on the Bitmap Kid's bike. You'll only be taken for a ride.

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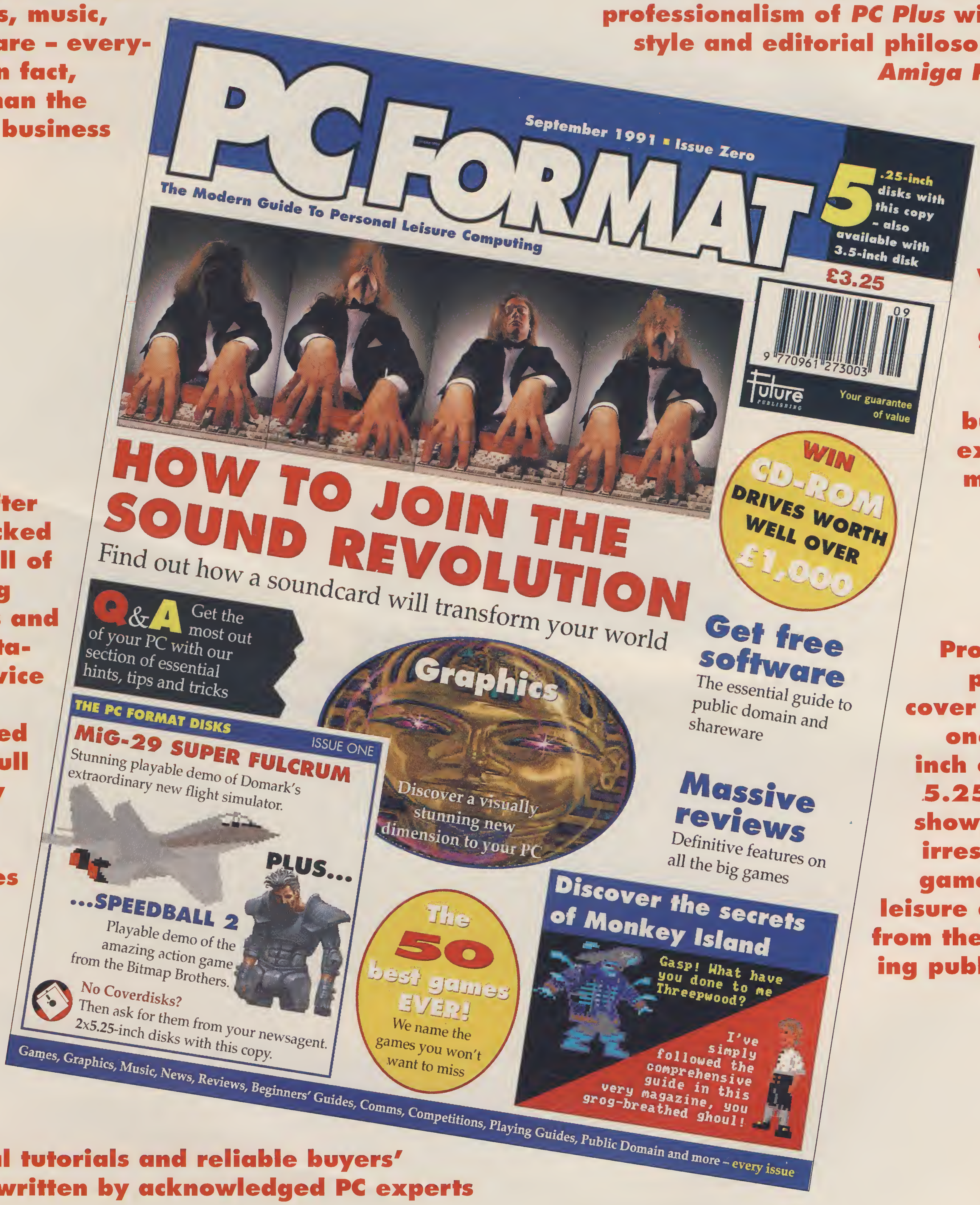

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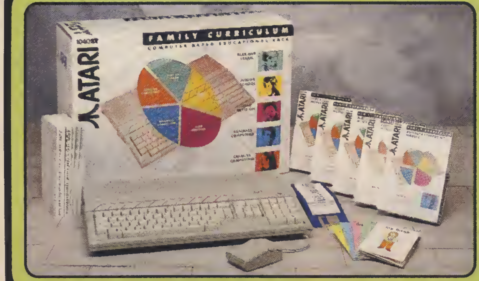

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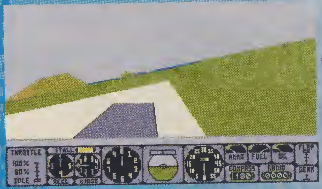

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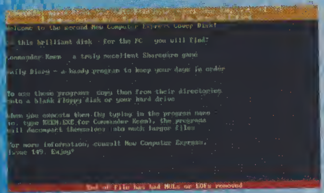

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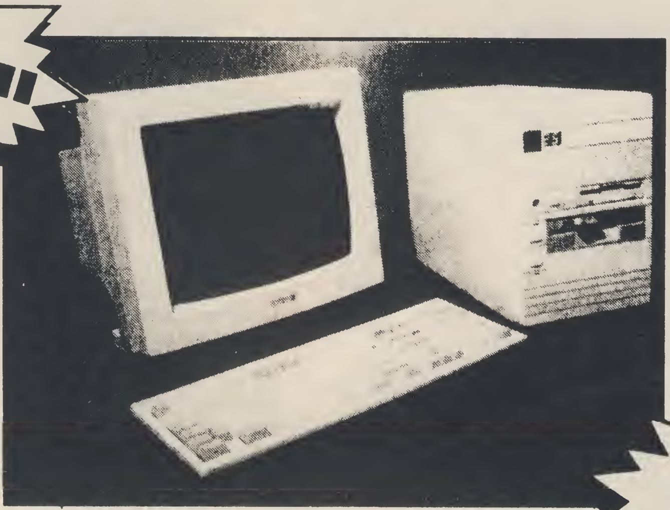

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